

حمل الآن

مجاناً وحصرياً

المراجعة رقم (1)

اختبار شهر فبراير



1 Choose the correct answer:

- a $2^3 \times 2^3 = \dots\dots\dots$ (2^6 , 2^3 , 4^9 , 6^3)
- b $\sqrt[3]{\sqrt{64}} = \dots\dots\dots$ (2 , 4 , 8 , 16)
- c $24x^3 \div (-6x^2) = \dots\dots\dots$ (-4 , $-4x$, $-4x^5$, $-4x^2$)
- d If $6.3 \times 10^n = 0.00063$, then $n = \dots\dots\dots$ (3 , 4 , -3 , -4)
- e If $(x-2)(x+2) = x^2 + m$, then $m = \dots\dots\dots$ (4 , -4 , -2 , 8)

2 Answer the following:

- a Find the solution set of: $(x-1)^3 + 2 = -6$ in Z

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- b Simplify the expression in the simplest form:

$(2n-1)^2 - (2n+1)(2n-1)$, then find the numerical value when $n = -3$

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- c A square has side length of $(x+4)$ unit length, find its area in terms of x , then find the numerical value of the area at $x = -2$

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d Simplify: $\sqrt{\frac{9}{4}} + \sqrt[3]{\frac{-27}{8}} + \left(\frac{4}{9}\right)^0$

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e Find the solution set of: $3(2x - 1) > 9$ in \mathbb{N}

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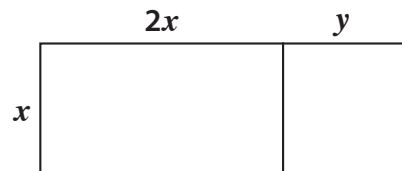
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1 Choose the correct answer:

- a $(2x)(3x) = \dots\dots\dots$ $(5x, 6x, 5x^2, 6x^2)$
- b $2 \times a \times 2 \times a \times 2 = \dots\dots\dots$ $(2^2 \times a, a^2 \times 2^3, 2a^2, 2 \times a)$
- c If $-x < 5$, then which of the following could be the value of x ? $(-5, -6, 0, -7)$
- d Half the number 2^8 is $\dots\dots\dots$ $(2^4, 2^7, 2^6, 2^9)$
- e The multiplicative inverse of 5^{-1} is $\dots\dots\dots$ $(5, \frac{1}{5}, 0, 1)$

2 Answer the following:

- a Find in the simplest form the algebraic expression that represents the area of the given figure.



- b Find in the simplest form the result of:

(1) $(x - 2y)^2$

(2) $(a - 5)(a + 5)$

- c Find the solution set in \mathbb{Q} for the inequality: $3(x + 5) - 3 < 12$

d Find in the simplest form the value of: $\frac{(a)^{-3} \times (-a)^4}{(-a)^2 \times (a)^3}$

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e Simplify: $\left(\frac{3}{2}\right)^2 + \sqrt{\frac{25}{4}} + \sqrt[3]{\frac{125}{64}}$

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1 Choose the correct answer:

- a $\sqrt{4 + \dots} = 5$ (1 , 6 , 21 , 12)
- b If the volume of a cube is 64 cm^3 , then its edge length = cm (4 , 6 , 8 , 16)
- c If $x^2 + y^2 = 30$ and $(x + y)^2 = 36$, then $xy = \dots$ (6 , 12 , 3 , 8)
- d The value of $6^3 = \dots$ (36 , 216 , 18 , 36×2)
- e If $x - 3 > 4$, which of the following could be the value of x ? (4 , 7 , 5 , 8)

2 Answer the following:

- a Find the result of: $\frac{(-3)^4 \times 3^2 \times (-3)^3}{(-3)^6 \times (-3)^5}$
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- b Find the result of the following in scientific notation:
 $(4.5 \times 10^7) \times (4 \times 10^8)$
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- c Find the solution set in \mathbb{Z} for $3x^3 - 4 = 2x^3 + 4$
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- d Find the solution set for the following inequality in \mathbb{Z}

$$3(x + 2) \geq -2(x + 1)$$

- e Divide $-3x^2 + x^3 - x + 6$ by $x - 2$, then find the numerical value of the quotient when $x = 3$

1 Choose the correct answer:

- a $\frac{3x^2 - 6x}{3x} = \dots\dots\dots$ ($-x$, $-x^2$, $x^2 - 2x$, $x - 2$)
- b Double of the number 2^4 is $\dots\dots\dots$ (2^8 , 2^6 , 2^5 , 2^{16})
- c $\sqrt[3]{0.027} = \dots\dots\dots$ ($\frac{1}{3}$, 0.003 , 0.03 , 0.3)
- d The multiplicative inverse of $\sqrt{\frac{9}{25}}$ in its simplest form is $\dots\dots\dots$ ($\frac{-3}{5}$, $\frac{3}{5}$, $\frac{-5}{3}$, $\frac{5}{3}$)
- e Which of the following numbers is written in the scientific notation? $\dots\dots\dots$ (0.23×10^5 , 3×2^{10} , 12×10^5 , 1×10^5)

2 Answer the following:

- a Simplify to the simplest form $2x(3x - 1) + 3x(x + 2)$,
then find the numerical value when $x = 1$

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- b Arrange the following in ascending order:

$$16 \times 10^{-6} , 1.5 \times 10^{-5} , 0.8 \times 10^{-5} , 14 \times 10^{-4}$$

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- c Find the solution set in \mathbb{Q} for the inequality:

$$2 - 3(x - 5) \geq x + 5$$

- d If $x - 4$ is one of factors of $x^2 - 5x + 4$, find the other factor:

- e Write the result of: $(4.2 \times 10^5) + (2.6 \times 10^4)$ in the scientific notation.

1 Choose the correct answer:

- a $2(x+3) = \dots\dots\dots$ ($2x^2+6x$, $2x+3$, $2x+6$, $x+6$)
- b If $\frac{2x+a}{x+3} = 2$, then $a = \dots\dots\dots$ (2 , 3 , 4 , 6)
- c $-4^3 = \dots\dots\dots$ (64 , -64 , -16 , -32)
- d $\sqrt[3]{64 - \dots\dots\dots} = 3$ (1 , 37 , 27 , 55)
- e $(-3x^2)(4x^3) = \dots\dots\dots$ ($-12x^5$, $12x$, $-12x^6$, $12x^5$)

2 Answer the following:

- a Find the result of each of the following:

(1) $(m+4n)(2m-n)$

(2) $(x+5)^2$

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- b If the expression $(x^3 - x^2 - 4x - m)$ is divisible by $x - 3$,
find the value of m .

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c Simplify: $\frac{a^7 \times a^8 \times a^2}{a^3 \times a^9 \times a^5}$ where $a \neq 0$

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d Find the solution set in \mathbb{Z} for the inequality: $2(x + 5) - 7 > 9$

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e Write the result of: $(3.8 \times 10^8) \div (1.9 \times 10^{-6})$ in the scientific notation.

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1 Choose the correct answer:

- a $2^3 \times 2^3 = \dots\dots\dots$ (2^6 , 2^3 , 4^9 , 6^3)
- b $\sqrt[3]{\sqrt{64}} = \dots\dots\dots$ (2 , 4 , 8 , 16)
- c $24x^3 \div (-6x^2) = \dots\dots\dots$ (-4 , $-4x$, $-4x^5$, $-4x^2$)
- d If $6.3 \times 10^n = 0.00063$, then $n = \dots\dots\dots$ (3 , 4 , -3 , -4)
- e If $(x-2)(x+2) = x^2 + m$, then $m = \dots\dots\dots$ (4 , -4 , -2 , 8)

2 Answer the following:

- a Find the solution set of: $(x-1)^3 + 2 = -6$ in Z

$$(x-1)^3 + 2 = -6$$

$$(x-1)^3 = -8$$

$$(x-1)^3 = (-2)^3$$

$$x-1 = -2$$

$$x = -1$$

Solution set: $\{-1\}$

- b Simplify the expression in the simplest form:

$(2n-1)^2 - (2n+1)(2n-1)$, then find the numerical value when $n = -3$

$$(2n-1)^2 - (2n+1)(2n-1)$$

$$4n^2 - 4n + 1 - 4n^2 + 1 = -4n + 2$$

The numerical value when $n = -3$ is $-4 \times -3 + 2 = 12 + 2 = 14$

- c A square has side length of $(x+4)$ unit length, find its area in terms of x , then find the numerical value of the area at $x = -2$

Area of a square = side length \times side length

$$= (x+4)^2 = x^2 + 8x + 16 \text{ square units}$$

At $x = -2$

$$\text{Area of a square} = (-2)^2 + 8(-2) + 16 = 4 - 16 + 16 = 4 \text{ square units}$$

d Simplify: $\sqrt{\frac{9}{4}} + \sqrt[3]{\frac{-27}{8}} + \left(\frac{4}{9}\right)^0$

$$\sqrt{\frac{9}{4}} + \sqrt[3]{\frac{-27}{8}} + \left(\frac{4}{9}\right)^0$$

$$\frac{3}{2} + \frac{-3}{2} + 1 = 0 + 1 = 1$$

e Find the solution set of: $3(2x - 1) > 9$ in \mathbb{N}

$$3(2x - 1) > 9$$

$$6x - 3 > 9$$

$$6x > 12$$

$$x > 2$$

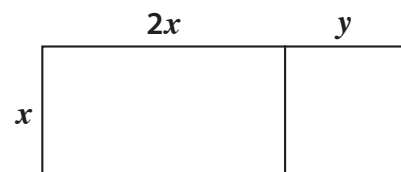
$$\text{Solution set in } \mathbb{N}: \{3, 4, 5, 6, \dots\}$$

1 Choose the correct answer:

- a $(2x)(3x) = \dots\dots\dots$ $(5x, 6x, 5x^2, 6x^2)$
- b $2 \times a \times 2 \times a \times 2 = \dots\dots\dots$ $(2^2 \times a, a^2 \times 2^3, 2a^2, 2 \times a)$
- c If $-x < 5$, then which of the following could be the value of x ? $(-5, -6, 0, -7)$
- d Half the number 2^8 is $\dots\dots\dots$ $(2^4, 2^7, 2^6, 2^9)$
- e The multiplicative inverse of 5^{-1} is $\dots\dots\dots$ $(5, \frac{1}{5}, 0, 1)$

2 Answer the following:

- a Find in the simplest form the algebraic expression that represents the area of the given figure.



The area = $2x \times x + x \times y = 2x^2 + xy$

- b Find in the simplest form the result of:

(1) $(x - 2y)^2$

(2) $(a - 5)(a + 5)$

(1) $(x - 2y)^2 = x^2 - 4xy + 4y^2$

(2) $(a - 5)(a + 5) = a^2 - 25$

- c Find the solution set in \mathbb{Q} for the inequality: $3(x + 5) - 3 < 12$

$3(x + 5) - 3 < 12$

$3x + 15 - 3 < 12$

$3x + 12 < 12$

$3x < 0$

$x < 0$

Solution set in \mathbb{Q} : $\{x : x \in \mathbb{Q}, x < 0\}$

- d Find in the simplest form the value of: $\frac{(a)^{-3} \times (-a)^4}{(-a)^2 \times (a)^3}$

$$\frac{(a)^{-3} \times (-a)^4}{(-a)^2 \times (a)^3} = \frac{(a)^{-3} \times (a)^4}{(a)^2 \times (a)^3}$$

$$= \frac{(a)^{-3+4}}{(a)^{2+3}} = (a)^{-4}$$

- e Simplify: $\left(\frac{3}{2}\right)^2 + \sqrt{\frac{25}{4}} + \sqrt[3]{\frac{125}{64}}$

$$\left(\frac{3}{2}\right)^2 + \sqrt{\frac{25}{4}} + \sqrt[3]{\frac{125}{64}}$$

$$= \frac{9}{4} + \frac{5}{2} + \frac{5}{4} = \frac{9}{4} + \frac{10}{4} + \frac{5}{4} = \frac{24}{4} = 6$$

1 Choose the correct answer:

- a $\sqrt{4 + \dots} = 5$ (1 , 6 , **21** , 12)
- b If the volume of a cube is 64 cm^3 , then its edge length = cm (4 , 6 , 8 , 16)
- c If $x^2 + y^2 = 30$ and $(x + y)^2 = 36$, then $xy = \dots$ (6 , 12 , **3** , 8)
- d The value of $6^3 = \dots$ (36 , **216** , 18 , 36×2)
- e If $x - 3 > 4$, which of the following could be the value of x ? (4 , 7 , 5 , **8**)

2 Answer the following:

- a Find the result of: $\frac{(-3)^4 \times 3^2 \times (-3)^3}{(-3)^6 \times (-3)^5}$
- $$= \frac{(-3)^4 \times 3^2 \times (-3)^3}{(-3)^6 \times (-3)^5}$$
- $$= \frac{3^4 \times 3^2 \times (-3)^3}{3^6 \times (-3)^5} = \frac{-3^9}{-3^{11}} = \frac{1}{3^2} = \frac{1}{9}$$
- b Find the result of the following in scientific notation:
- $$(4.5 \times 10^7) \times (4 \times 10^8)$$
- $$= (4.5 \times 10^7) \times (4 \times 10^8) = 18 \times 10^{15} = 1.8 \times 10^{16}$$
- c Find the solution set in \mathbb{Z} for $3x^3 - 4 = 2x^3 + 4$
- $$= 3x^3 - 4 = 2x^3 + 4$$
- $$x^3 = 8$$
- $$x = 2$$
- Solution set: { 2 }**

- d Find the solution set for the following inequality in \mathbb{Z}

$$3(x + 2) \geq -2(x + 1)$$

$$3(x + 2) \geq -2(x + 1)$$

$$3x + 6 \geq -2x - 2$$

$$5x \geq -8$$

$$x \geq \frac{-8}{5}$$

$$\text{Solution set: } \{-1, 0, 1, 2, \dots\}$$

- e Divide $-3x^2 + x^3 - x + 6$ by $x - 2$, then find the numerical value of the quotient when $x = 3$

$$\text{The quotient} = x^2 - x - 3$$

$$\text{The numerical value of the quotient when } x = 3 \text{ is}$$

$$3^2 - 3 - 3 = 9 - 3 - 3 = 3$$

$$\begin{array}{r}
 \quad \quad \quad x^2 - x - 3 \\
 x-2 \overline{) \begin{array}{r} x^3 - 3x^2 - x + 6 \\ \underline{-(x^3 - 2x^2)} \\ -x^2 - x + 6 \\ \underline{+ (x^2 - 2x)} \\ -3x + 6 \\ \underline{+ (3x - 6)} \\ 0 \end{array} \\
 \quad \quad \quad 0 \quad 0
 \end{array}$$

1 Choose the correct answer:

- a $\frac{3x^2 - 6x}{3x} = \dots\dots\dots$ ($-x$, $-x^2$, $x^2 - 2x$, $x - 2$)
- b Double of the number 2^4 is $\dots\dots\dots$ (2^8 , 2^6 , 2^5 , 2^{16})
- c $\sqrt[3]{0.027} = \dots\dots\dots$ ($\frac{1}{3}$, 0.003 , 0.03 , 0.3)
- d The multiplicative inverse of $\sqrt{\frac{9}{25}}$ in its simplest form is $\dots\dots\dots$ ($-\frac{3}{5}$, $\frac{3}{5}$, $-\frac{5}{3}$, $\frac{5}{3}$)
- e Which of the following numbers is written in the scientific notation? $\dots\dots\dots$ (0.23×10^5 , 3×2^{10} , 12×10^5 , 1×10^5)

2 Answer the following:

- a Simplify to the simplest form $2x(3x - 1) + 3x(x + 2)$,
then find the numerical value when $x = 1$

$$2x(3x - 1) + 3x(x + 2)$$

$$= 6x^2 - 2x + 3x^2 + 6x = 9x^2 + 4x$$

The numerical value when $x = 1$ is

$$9 \times 1^2 + 4 \times 1 = 9 + 4 = 13$$

- b Arrange the following in ascending order:

$$16 \times 10^{-6} , 1.5 \times 10^{-5} , 0.8 \times 10^{-5} , 14 \times 10^{-4}$$

Numbers in the scientific notation:

$$1.6 \times 10^{-5} , 1.5 \times 10^{-5} , 8 \times 10^{-6} , 1.4 \times 10^{-3}$$

$$\text{The order: } 0.8 \times 10^{-5} , 1.5 \times 10^{-5} , 16 \times 10^{-6} , 14 \times 10^{-4}$$

- c Find the solution set in \mathbb{Q} for the inequality:

$$2 - 3(x - 5) \geq x + 5$$

$$2 - 3(x - 5) \geq x + 5$$

$$2 - 3x + 15 \geq x + 5$$

$$-3x + 17 \geq x + 5$$

$$-4x \geq -12$$

$$x \leq 3$$

$$\text{Solution set: } \{x : x \in \mathbb{Q}, x \leq 3\}$$

- d If $x - 4$ is one of factors of $x^2 - 5x + 4$, find the other factor:

$$\begin{array}{r} x - 1 \\ x - 4 \overline{) x^2 - 5x + 4} \\ \underline{-(x^2 - 4x)} \\ -x + 4 \\ \underline{+(x - 4)} \\ 0 \\ 0 \end{array}$$

The other factor is $x - 1$

- e Write the result of: $(4.2 \times 10^5) + (2.6 \times 10^4)$ in the scientific notation.

$$(4.2 \times 10^5) + (2.6 \times 10^4) = (4.2 \times 10^5) + (0.26 \times 10^5)$$

$$= (4.2 + 0.26) \times 10^5$$

$$= 4.46 \times 10^5$$

1 Choose the correct answer:

- a $2(x+3) = \dots\dots\dots$ ($2x^2+6x$, $2x+3$, $2x+6$, $x+6$)
- b If $\frac{2x+a}{x+3} = 2$, then $a = \dots\dots\dots$ (2 , 3 , 4 , 6)
- c $-4^3 = \dots\dots\dots$ (64 , -64 , -16 , -32)
- d $\sqrt[3]{64 - \dots\dots\dots} = 3$ (1 , 37 , 27 , 55)
- e $(-3x^2)(4x^3) = \dots\dots\dots$ ($-12x^5$, $12x$, $-12x^6$, $12x^5$)

2 Answer the following:

- a Find the result of each of the following:

(1) $(m+4n)(2m-n)$

(2) $(x+5)^2$

(1) $(m+4n)(2m-n) = 2m^2 + 7mn - 4n^2$

(2) $(x+5)^2 = x^2 + 10x + 25$

- b If the expression $(x^3 - x^2 - 4x - m)$ is divisible by $x - 3$, find the value of m .

$$\begin{array}{r}
 x^2 + 2x + 2 \\
 x-3 \overline{) x^3 - x^2 - 4x - m} \\
 \underline{-(x^3 - 3x^2)} \\
 2x^2 - 4x - m \\
 \underline{-(2x^2 - 6x)} \\
 2x - m \\
 \underline{-(2x - 6)} \\
 0 0
 \end{array}$$

Then $m = 6$

- c Simplify: $\frac{a^7 \times a^8 \times a^2}{a^3 \times a^9 \times a^5}$ where $a \neq 0$

$$\frac{a^7 \times a^8 \times a^2}{a^3 \times a^9 \times a^5} = \frac{a^{17}}{a^{17}} = 1$$

- d Find the solution set in \mathbb{Z} for the inequality: $2(x + 5) - 7 > 9$

$$2(x + 5) - 7 > 9$$

$$2x + 10 - 7 > 9$$

$$2x + 3 > 9$$

$$2x > 6$$

$$x > 3$$

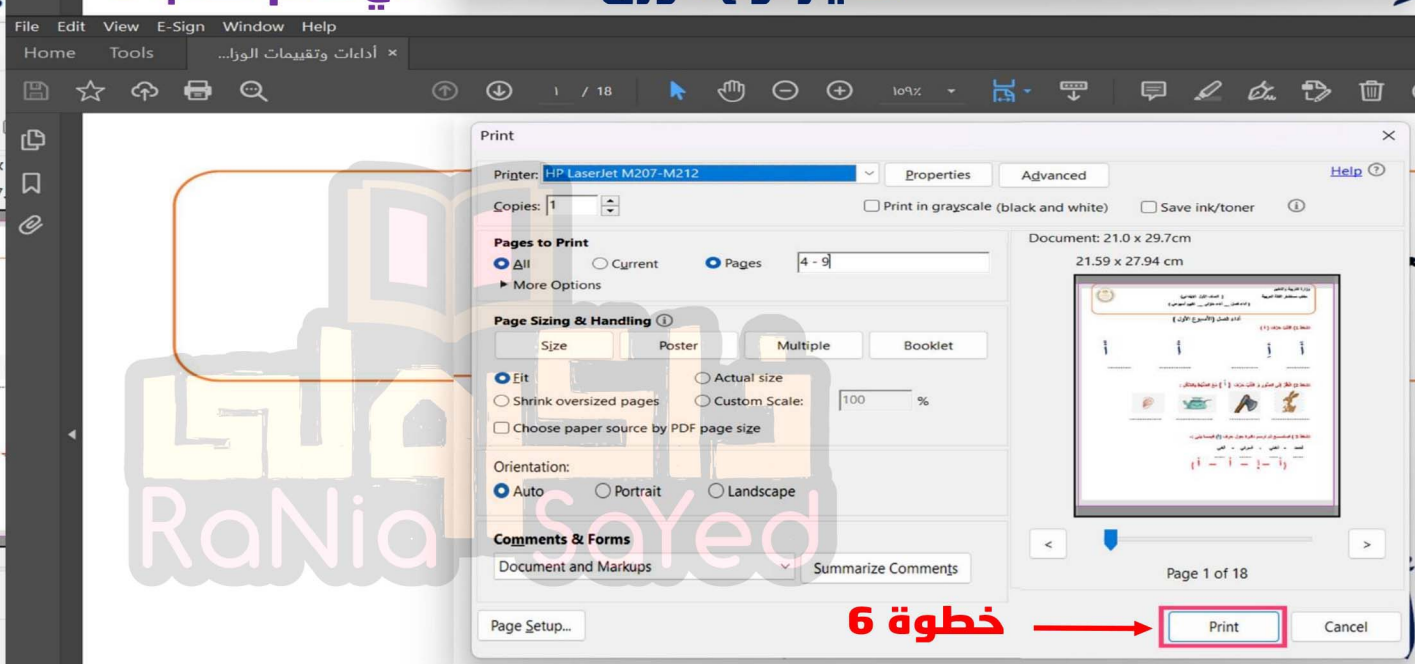
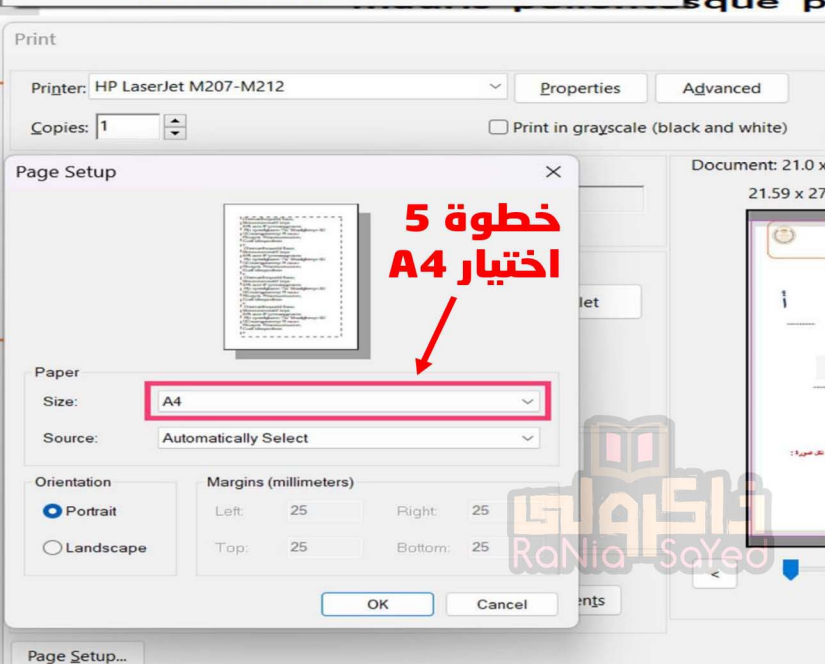
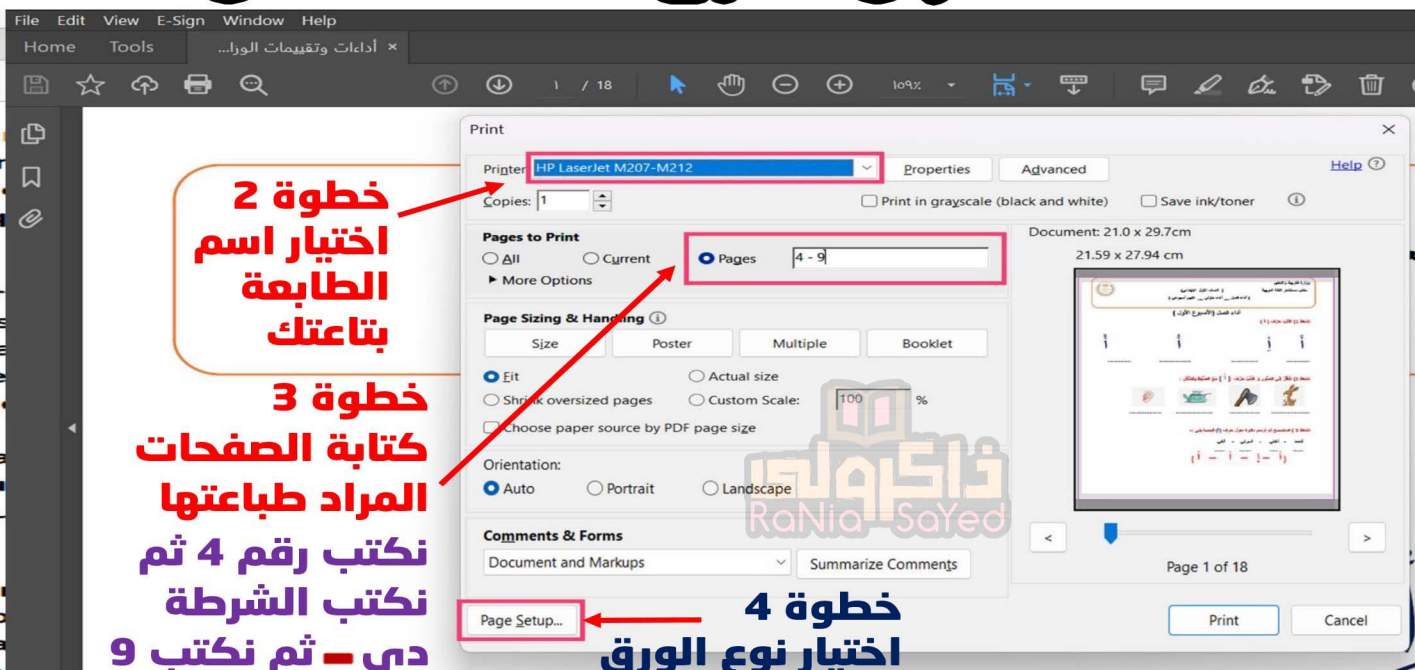
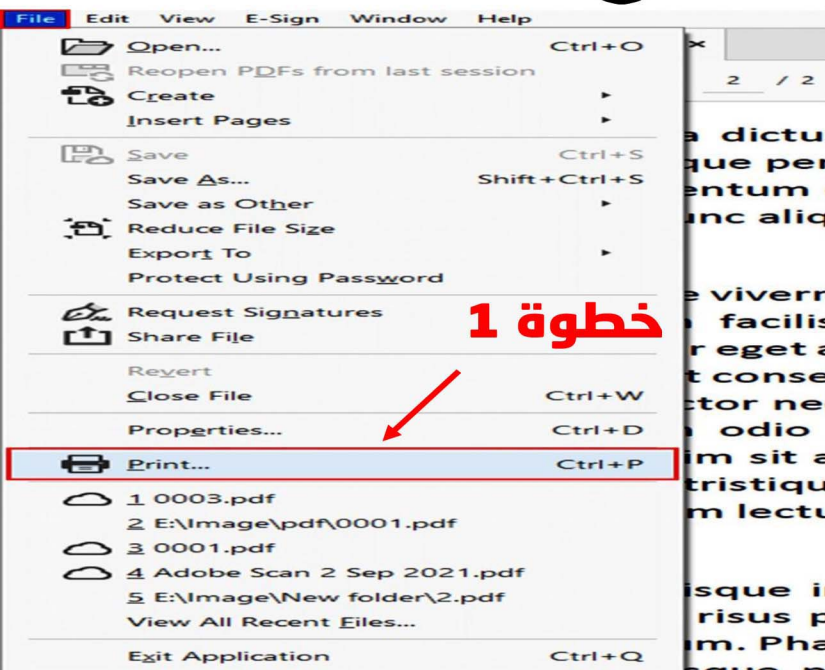
$$\text{Solution set: } \{4, 5, 6, \dots\}$$

- e Write the result of: $(3.8 \times 10^8) \div (1.9 \times 10^{-6})$ in the scientific notation.

$$\begin{aligned}(3.8 \times 10^8) \div (1.9 \times 10^{-6}) &= (3.8 \div 1.9) \times (10^8 \div 10^{-6}) \\ &= 2 \times 10^{14}\end{aligned}$$

كيفية طباعة صفحات معينة من ملف معين

مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



حمل الآن

مجاناً وحصرياً

المراجعة رقم (2)

اختبار شهر فبراير





Test

1

Total mark

15

1 Choose the correct answer from the given ones :

1 Which of the following expresses the number 10 million in scientific notation?

- (a) 1×10^6 (b) 1×10^7 (c) 10×10^7 (d) 10^{-7}

2 If $-\sqrt[3]{9} = \sqrt[3]{X}$, then what is the value of X ?

- (a) 3 (b) -3 (c) -9 (d) -27

3 $(4x^2)(-2x^4) = \dots\dots\dots$

- (a) $2x^6$ (b) $-8x^8$ (c) $-8x^6$ (d) $-2x^6$

4 If $5^4 \times a = 5^8$, then what is the value of a ?

- (a) 5^4 (b) 5^2 (c) 4 (d) 1^4

5 Which of the following inequalities has one of its solutions is $x = -3$ in \mathbb{Q} ?

- (a) $-x > 3$ (b) $x \geq -2$ (c) $x > -3$ (d) $-x > -3$

2 Answer the following questions :

1 A square with a side length of $(x + 4)$ length units. Calculate its surface area in terms of x

2 Find the solution set for the following equation in \mathbb{Z} :

$$3x^2 - 2 = 10$$

3 Write the number 200 by using prime factors and exponents.

4 Find the solution set for the following inequality in \mathbb{Q} :

$$2(x + 1) \leq 5(x - 4)$$

5 Write the result of the following in scientific notation :

$$(2.14 \times 10^5) + (5.4 \times 10^4)$$

1 Choose the correct answer from the given ones :

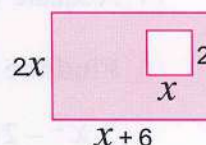
- 1 Which of the following is the multiplicative inverse of the number 5^{-2} ?
 (a) $-\frac{1}{25}$ (b) -25 (c) $\frac{1}{25}$ (d) 25
- 2 Which inequality expresses that three times the number X is greater than or equal to 4 ?
 (a) $X \geq 4$ (b) $3X \geq 4$ (c) $4X \leq 3$ (d) $3X > 4$
- 3 If $(X+3)(X-3) = aX^2 + bX + c$, then what is the value of $a + b + c$?
 (a) 0 (b) 1 (c) -9 (d) -8
- 4 If $72.5 \times 10^4 = k \times 10^5$, then what is the value of k ?
 (a) 725 (b) 72.5 (c) 7.25 (d) 0.725
- 5 If a and b are the square roots of the number c , then what is the value of $a + b$?
 (a) $2a$ (b) $2b$ (c) 1 (d) zero

2 Answer the following questions :

- 1 Simplify to the simplest form : $\frac{X^{-3} \times X^5 \times (-X)^4}{X^2 \times X^{-4} \times X^6}$

Then find the numerical value when $X = 2$

- 2 Find in the simplest form the algebraic expression that represents the area of the shaded part.



- 3 Find the solution set of the following inequality in \mathbb{Z} :

$$4 - 3X > 13$$

- 4 Arrange the following numbers in an ascending order :

$$5\,400\,000, 7.1 \times 10^6, 1.2 \times 10^7, 0.95 \times 10^7$$

- 5 Simplify to the simplest form :

$$\sqrt{\frac{4}{25}} + \left(-\frac{3}{2}\right)^0 + \sqrt[3]{\frac{27}{125}}$$

حمل الآن

مجاناً وحصرياً

المراجعة رقم (3)

اختبار شهر فبراير



Q1: CHOOSE THE CORRECT ANSWER

- 1 $(-\frac{3}{5})^{-3} = \dots\dots\dots$
 - a $-\frac{27}{125}$
 - b $-\frac{125}{27}$
 - c $\frac{27}{125}$
 - d $\frac{125}{27}$
- 2 $(2x)^4 = \dots\dots\dots$
 - a $2x^4$
 - b $16x$
 - c $16x^4$
 - d $16x^2$
- 3 If $y^{22} + y^{23} = 0$, then $y = \dots\dots\dots$
 - a -1
 - b 1
 - c 2
 - d -2
- 4 $\frac{(-2s^2t)^3}{(-4st^2)^2} = \dots\dots\dots$
 - a $-\frac{s^3}{2t}$
 - b $-\frac{s^4}{2t}$
 - c $\frac{s^5}{2t^2}$
 - d $\frac{s^4}{t}$
- 5 The greatest value of $(\frac{1}{8})^m$, when $m = \dots\dots\dots$
 - a -1
 - b zero
 - c 1
 - d 100
- 6 $\frac{3^x}{3^{-y}} = \dots\dots\dots$
 - a $-\frac{x}{y}$
 - b $3^{x \div y}$
 - c 3^{x+y}
 - d 3^{x-y}
- 7 $4^{-1} + 4^{-1} + 4^{-1} + 4^{-1} = \dots\dots\dots$
 - a 4^{-4}
 - b 4^4
 - c 1
 - d 16
- 8 Which of the following is the smallest ?
 - a 314×10^3
 - b 3.14×10^4
 - c 31.4×10^5
 - d 0.314×10^6
- 9 The additive inverse of the number $(-5)^0$ is $\dots\dots\dots$
 - a 1
 - b 5
 - c -5
 - d $-(7)^0$



FOLLOW US

10 If $xy^{-1} = \frac{1}{3}$, then $\frac{y}{x} = \dots\dots\dots$

(a) $\frac{1}{3}$

(b) 1

(c) $-\frac{1}{3}$

(d) 3

11 $\sqrt{25 + 144} = 5 + \dots\dots\dots$

(a) 12

(b) 13

(c) 8

(d) 6

12 If $0.00043 = 4.3 \times 10^n$, Then $n = \dots\dots\dots$

(a) -5

(b) -4

(c) 4

(d) 5

13 If $a = b$, then $(\frac{x}{3y})^{b-a} = \dots\dots\dots$

(a) $\frac{x}{3y}$

(b) $\frac{3y}{x}$

(c) 1

(d) zero

14 The multiplicative inverse of the number $(-1)^{45}$ is $\dots\dots\dots$

(a) $(-1)^{43}$

(b) $(-1)^{44}$

(c) $(1)^{43}$

(d) $(1)^{44}$

15 $(\frac{2}{3})^{-2} = \dots\dots\dots$

(a) $-\frac{9}{4}$

(b) $-\frac{4}{9}$

(c) $\frac{4}{9}$

(d) $\frac{9}{4}$

16 $\sqrt[3]{(-8)^2} = \dots\dots\dots$

(a) -4

(b) -2

(c) 2

(d) 4

17 The solution set of the equation : $x(x^2 - 1) = 0$ in Q is $\dots\dots\dots$

(a) $\{0\}$

(b) $\{1\}$

(c) $\{-1\}$

(d) $\{0, 1, -1\}$

18 Half of $4^{20} = \dots\dots\dots$

(a) 4^{10}

(b) 2^{39}

(c) 2^{20}

(d) 4^{19}

19 $0.0000073 = 7.3 \times \dots\dots\dots$

(a) 10^{-6}

(b) 10^{-5}

(c) 10^5

(d) 10^6



FOLLOW US

20 $4^{10} + 4^{10} + 4^{10} + 4^{10} = \dots\dots\dots$

(a) 4^{10}

(b) 4^{40}

(c) 2^9

(d) 4^{11}

21 The number which is in scientific notation from the following is

(a) 11×10^8

(b) 9.7×10^{-5}

(c) 10.2×10^{-2}

(d) 0.87×10^8

22 $\frac{(x^2)^4}{x^4} = \dots\dots\dots (x \neq \text{zero})$

(a) x^4

(b) x^2

(c) x^3

(d) x^8

23 If the volume of a cube is 64 cm^3 : then its edge length is cm.

(a) 4

(b) 8

(c) 16

(d) 64

24 The S.S of the equation: $x^2 + 9 = 0$ in Q is

(a) $\{-9\}$

(b) $\{-3, 3\}$

(c) $\{-3\}$

(d) \emptyset

25 If $3^x = 7$, then $3^{x+1} = \dots\dots\dots$

(a) 49

(b) 9

(c) 21

(d) 8

26 The scientific notation of the number 750×10^{-6} is

(a) 7.5×10^{-8}

(b) 7.5×10^{-7}

(c) 7.5×10^{-4}

(d) 7.5×10^4

27 If X is a negative number, then which of the following numbers is positive?

(a) x^3

(b) $2x$

(c) x^2

(d) $\frac{x}{2}$

28 If $0.0000503 = m \times 10^{-5}$, Then $m = \dots\dots\dots$

(a) 503

(b) 5.03

(c) 50.3

(d) 0.503

29 $\sqrt[3]{-64} + \sqrt{16} = \dots\dots\dots$

(a) zero

(b) -8

(c) 8

(d) ± 8



FOLLOW US

- 30** The area of a square whose side length is $\sqrt{3}$ cm is cm^2
- (a) $4 \times \sqrt{3}$ (b) 9 (c) 3 (d) 6
- 31** $(\frac{a}{b})^5 \times \frac{b^5}{a^5} = \dots\dots\dots$ (where $a \neq \text{zero}$, $b \neq \text{zero}$)
- (a) $(\frac{a}{b})^{10}$ (b) $\frac{a}{b}$ (c) ab (d) $(xy)^{\text{zero}}$
- 32** The square whose area is 10 cm^2 , its side length is cm
- (a) 100 (b) $\sqrt{10}$ (c) 10 (d) $\sqrt{100}$
- 33** Which of the following is the greatest ?
- (a) 6.3×10^5 (b) 9.8×10^4 (c) 5.2×10^5 (d) 7.3×10^4

Q2: ANSWER THE FOLLOWING

- 1** $2^2 + 2^2 = 2^{\dots\dots}$
- 2** If $x = \frac{2}{3}$, and $y = -\frac{1}{2}$, Find the value of: x^2y^2 and $(a - b)^{-1}$

.....

.....

- 3** Calculate the value of the following in scientific notation:
 $(5.4 \times 10^4) + (3.7 \times 10^5)$

.....

.....

- 4** Simplify to the simplest form: $\frac{5^7 \times 5^{-4}}{5^3}$

.....

- 5** Simplify the following to the simplest form: $1 \frac{1}{3} \times \sqrt{\frac{81}{16}} \times (\frac{1}{2})^0$

.....

.....



FOLLOW US

6 If a and b are the two square roots of c where $c \neq 0$, complete the following :

a $a + b = \dots\dots\dots$

b $\frac{a}{b} = \dots\dots\dots$

7 If $(x^6)^2 = (x^3)^k$, then $k = \dots\dots\dots$.

8 Simplify: $\frac{x^3 \times x^{-2}}{x^{-5} \times x}$, Then find the numerical value of the result when: $x = -2$

.....

9 The sum of the two square roots of the number 16 is

10 Calculate the value of the following in the scientific notation:
 $(3.6 \times 10^8) \times (1.8 \times 10^3)$

.....

.....

11 By using prime factors and exponents write each of the following:

a $180 = \dots\dots\dots$

b $324 = \dots\dots\dots$

12 Find in the simplest form:

a $\left(\frac{3^4 \times 7^3}{7^4 \times 3^3}\right)^{-1}$

b $(7^0 \times 2^{-2})^{-3}$

c $\frac{8 \times 8^{-3}}{8^{-4}}$

.....

.....

13 A square whose area is 0.81 cm^2 , Find its perimeter.

.....

.....

14 Find the Solution set of $4x^3 = -32$ in \mathbb{Z}

.....

.....

15 Put in the scientific notation : 0.000014×10^2

.....



- 16** The total area of a cube is 294 square centimeters.
Find the length of its edge.

.....
.....

- 17** Find the S.S of the following in Q:

a $x^3 + 26 = -1$

b $2x^2 + 1 = 33$

.....
.....

c $(x - 1)^3 + 2 = -6$

d $3x^2 + 75 = 0$

.....
.....

e $2(x^2 - 3) = x^2 + 3$

f $(x - 1)^3 = 216$

.....
.....

- 18** Simplify the following to the simplest form: $\left(\frac{-1}{2}\right)^2 \times \sqrt{\frac{81}{25}} \times \frac{4}{3}$

.....
.....
MATH TEACHER



FOLLOW US

Q1: CHOOSE THE CORRECT ANSWER

1 The inequality which represent the maximum speed of a car is 80 km/hr is

- (a) $x > 80$ (b) $x < 80$ (c) $x \geq 80$ (d) $x \leq 80$

2 If $x > 7$, then $-x$

- (a) > -7 (b) ≥ -7 (c) < -7 (d) ≤ -7

3 If $\frac{x}{y} = 70$, then $\frac{x}{2y} =$

- (a) 35 (b) 68 (c) 72 (d) 140

4 If $x - y = 4$, and $x + y = 7$, then $x^2 - y^2 =$

- (a) 4 (b) 7 (c) 3 (d) 28

5 The solution set of the inequality: $-4x > 3$ in \mathbb{Z}^+ is

- (a) $\{0, -1, -2, \dots\}$ (b) $\{0, 1, 2, 3, 4, \dots\}$ (c) $\{0\}$ (d) \emptyset

6 If $x^2 = 16$, $y^2 = 9$ and $xy = 12$, then $(x - y)^2 =$

- (a) 49 (b) 165 (c) -1 (d) 1

7 If $x^2 = 10$, $y^2 = 7$, then $(x + y)(x - y) =$

- (a) 70 (b) 17 (c) 3 (d) -3

8 3 belongs to the solution set of the inequality:, where $x \in \mathbb{Z}$

- (a) $x > 3$ (b) $-x < -3$ (c) $x < 3$ (d) $-x \geq -3$

9 $6y(3y^2 - 4y + 2) =$

- (a) $18y^3 + 24y^3 + 12y$ (b) $18y^3 - 4y + 2$
(c) $18y^2 - 24y + 2$ (d) $18y^3 - 24y^2 + 12y$



FOLLOW US

10 The perimeter of the rectangle whose dimensions are $8x$, $5x$ is

- (a) $40x^2$ (b) $13x$ (c) $40x$ (d) $26x$

11 If $\frac{a}{7} > \frac{b}{9}$, then $9a$ $7b$

- (a) $>$ (b) $<$ (c) $=$ (d) \leq

12 If $(x+3)(x-3) = x^2 + k$, then $k =$

- (a) 6 (b) 9 (c) -6 (d) -9

13 If $-x > 4$, then

- (a) $x > 4$ (b) $x < 4$ (c) $x < -4$ (d) $x > -4$

14 If $x - y = 4$ and $x + y = 10$, then $x(x - y) + y(x - y) =$

- (a) 4 (b) 6 (c) 14 (d) 40

15 If $x < 0 < y$, $|x| > y$, Then $x + y$ zero

- (a) $>$ (b) $<$ (c) $=$ (d) \geq

16 If $(x - y)(2x + y) = 2x^2 + kxy - y^2$, then $k =$

- (a) 3 (b) 4 (c) -1 (d) 1

17 If $\frac{x}{-3} < 2$, then x - 6

- (a) $>$ (b) $<$ (c) $=$ (d) \geq

18 If $(x + 5)(x - 5) = x^2 + b$, then $b =$

- (a) 25 (b) -25 (c) 10 (d) -10

19 The volume of a cuboid whose dimensions are $5x$ cm , $2x$ cm, and $2x$ cm, is cm^3 .

- (a) $9x$ (b) $20x^2$
(c) $9x^3$ (d) $20x^3$



FOLLOW US

- 20** If $3y$ is the side length of a square, then its area equals
- (a) $12y$ (b) $9y$ (c) $9y^2$ (d) $81y^2$
- 21** The coefficient of xy in $(2x + 3y)^2$ is
- (a) 1 (b) 5 (c) 6 (d) 12
- 22** If $(4x - 5)^2 = ax^2 + bx + c$, what is the value of a ?
- (a) 20 (b) -20 (c) 16 (d) -10
- 23** $k(3m + 2) = 36m^2 + 24m$, then $k =$
- (a) $12m$ (b) 12 (c) $18m$ (d) $6m$
- 24** If $(x - y)(2x + y) = 2x^2 + kxy - y^2$, then $k =$
- (a) 3 (b) 4 (c) -1 (d) 1
- 25** A rectangle whose length is $3x^2$ cm, and its width is $5x$ cm, then its area is cm^2 .
- (a) $15x$ (b) $15x^2$ (c) $8x^3$ (d) $15x^3$

Q2: ANSWER THE FOLLOWING

- 1** Simplify: $(x - 3)(x + 4) + 9$, then find numerical value of the result when $x = 5$
-
-
- 2** Solve the following equation in z : $x(x - 2) + 2(x - 2) = 0$
-
-
- 3** $(x + 5)(x + \dots) = x^2 + \dots + 15$
-
-



FOLLOW US

4 Find in the simplest form each of the following:

a $-5m(m+2)$

.....

.....

b $(x+5)(x-5)$

.....

.....

c $(x+3)^2(6-x)$

.....

.....

d $(7-5x)(5x+7)$

.....

.....

e $x(x^2-x-1)+3(2x^2+x+1)$

.....

.....

f $-3m^2(-2m+3n-1)$

.....

.....

g $(a+b)^2-(a+b)(a-b)$

.....

.....

h $(2x-1)(x^2-3x+4)$

.....

.....

5 $(3x+y) = 6x^2 + \dots\dots\dots$

6 Find the solution set of the following inequalities in Z:

a $5-3x \geq 14$

.....

.....

b $3(x-7) \geq 7(x-3)$

.....

.....

c $3(2x-1) > 9$

.....

.....

d $x-3(x-5) \geq x+7$

.....

.....

7 Find the S.S of $4(x+3) > 7x-9$ If the substitution set is Q

.....

.....



FOLLOW US

8 Reduce: $(x - 3)^2 - (x - 3)(x + 3)$

.....
.....

9 $(a + \dots)^2 = \dots + \dots + 16$

10 Find the S.S of $3(x + 2) \geq 2(x + 1)$, If the substitution set is N

.....
.....

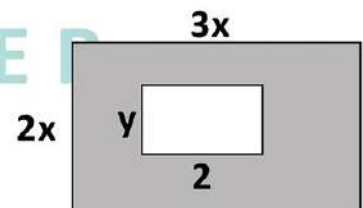
11 $(x + 7)(x - 7) = x^2 + \dots$

12 Simplify to the simplest form the expression: $2x(2x + 1) + 3x(x + 2)$,
then find the numerical value of the expression when $x = -1$

.....
.....

13 Find in the simplest form the expression which represents the
shaded part of the opposite figure:

.....
.....



Q1: CHOOSE THE CORRECT ANSWER

1 $\left(-\frac{3}{5}\right)^{-3} = \left(\frac{-5}{3}\right)^3 = \frac{-125}{27}$

(a) $\frac{-27}{125}$

(b) $\frac{-125}{27}$

(c) $\frac{27}{125}$

(d) $\frac{125}{27}$

2 $(2x)^4 = 16x^4$

(a) $2x^4$

(b) $16x$

(c) $16x^4$

(d) $16x^2$

3 If $y^{22} + y^{23} = 0$, then $y = -1$

(a) -1

(b) 1

(c) 2

(d) -2

4 $\frac{(2s^2t)^3}{(4s^2t)^2} = \frac{8s^6t^3}{16s^4t^2} = \frac{s^2t}{2}$

(a) $\frac{s^3}{2t}$

(b) $\frac{s^4}{2t}$

(c) $\frac{s^5}{2t^2}$

(d) $\frac{s^4}{t}$

5 The greatest value of $\left(\frac{1}{8}\right)^m$, when $m = \dots$

(a) -1

(b) zero

(c) $1\frac{1}{8}$

(d) 100

6 $\frac{3^x}{3^y} = 3^{x-y}$

(a) $-\frac{x}{y}$

(b) 3^{x+y}

(c) 3^{x-y}

(d) 3^{x+y}

7 $4^{-1} + 4^{-1} + 4^{-1} + 4^{-1} = 1$

(a) 4^{-4}

(b) 4^4

(c) 1

(d) 16

8 Which of the following is the smallest?

(a) 314×10^3
 $314,000$

(b) 3.14×10^4
 $31,400$

(c) 31.4×10^5
 $3,140,000$

(d) 0.314×10^6
 $314,000$

9 The additive inverse of the number $(-5)^0$ is -1

(a) 1

(c) -5

(b) 5

(d) $-(-7)^0$



FOLLOW US

10 If $xy^{-1} = \frac{1}{3}$, then $\frac{y}{x} = \dots\dots\dots$

- (a) $\frac{1}{3}$ (b) 1 (c) $-\frac{1}{3}$ (d) 3

11 $\sqrt{25 + 144} = 5 + \dots\dots\dots$

- (a) 12 (b) 13 (c) 8 (d) 6

12 If $0.00043 = 4.3 \times 10^n$ Then $n = \dots\dots\dots$

- (a) -5 (b) -4 (c) 4 (d) 5

13 If $a = b$, then $(\frac{x}{3y})^{b-a} = \dots\dots\dots$

- (a) $\frac{x}{3y}$ (b) $\frac{3y}{x}$ (c) 1 (d) zero

14 The multiplicative inverse of the number $(-1)^{45}$ is $\dots\dots\dots$

- (a) $(-1)^{43}$ (b) $(-1)^{44}$ (c) $(1)^{43}$ (d) $(1)^{44}$

15 $(\frac{2}{3})^{-2} = \dots\dots\dots$

- (a) $-\frac{9}{4}$ (b) $-\frac{4}{9}$ (c) $\frac{4}{9}$ (d) $\frac{9}{4}$

16 $\sqrt[3]{(-8)^4} = \dots\dots\dots$

- (a) -4 (b) -2 (c) 2 (d) 4

17 The solution set of the equation $x(x^2 - 1) = 0$ in Q is $\dots\dots\dots$

- (a) $\{0\}$ (b) $\{1\}$ (c) $\{-1\}$ (d) $\{0, 1, -1\}$

18 Half of $4^{20} = \dots\dots\dots$

- (a) 4^{10} (b) 2^{39} (c) 2^{20} (d) 4^{19}

19 $0.0000073 = 7.3 \times \dots\dots\dots$

- (a) 10^{-6} (b) 10^{-5} (c) 10^5 (d) 10^6



FOLLOW US

20 $4^{10} + 4^{10} + 4^{10} + 4^{10} = 4^{10} \times 4 = 4^{11}$

(a) 4^{10}

(b) 4^{40}

(c) 2^9

(d) 4^{11}

21 The number which is in scientific notation from the following is

(a) 11×10^8

(b) 9.7×10^{-5}

(c) 10.2×10^{-2}

(d) 0.87×10^8

22 $\frac{(x^2)^4}{x^4} = \dots\dots\dots (x \neq \text{zero})$

(a) x^4

(b) x^2

(c) x^3

(d) x^8

23 If the volume of a cube is 64 cm^3 ; then its edge length is cm.

(a) 4

(b) 8

(c) 16

(d) 64

24 The S.S of the equation: $x^2 + 9 = 0$ in Q is

(a) $\{-9\}$

(b) $\{-3, 3\}$

(c) $\{-3\}$

(d) \emptyset

25 If $3^x = 7$, then $3^{x+1} = \dots\dots\dots$

(a) 49

(b) 9

(c) 21

(d) 8

26 The scientific notation of the number 750×10^{-6} is

(a) 7.5×10^{-8}

(b) 7.5×10^{-7}

(c) 7.5×10^{-4}

(d) 7.5×10^4

27 If X is a negative number, then which of the following numbers is positive?

(a) x^3

(b) $2x$

(c) x^2

(d) $\frac{x}{2}$

28 If $0.0000503 = m \times 10^{-5}$, Then $m = \dots\dots\dots$

(a) 503

(b) 5.03

(c) 50.3

(d) 0.503

29 $\sqrt[3]{-64} + \sqrt{16} = \dots\dots\dots$

(a) zero

(b) -8

(c) 8

(d) ± 8



FOLLOW US

$$A = S + S = \sqrt{3} \times \sqrt{3} = 3$$

30 The area of a square whose side length is $\sqrt{3}$ cm is cm²

(a) $4 \times \sqrt{3}$

(b) 9

(c) 3

(d) 6

31 $\left(\frac{a}{b}\right)^5 \times \frac{b^5}{a^5} = \dots\dots\dots$ (where $a \neq \text{zero}$, $b \neq \text{zero}$)

(a) $\left(\frac{a}{b}\right)^{10}$

(b) $\frac{a}{b}$

(c) ab

(d) $(xy)^{\text{zero}}$

32 The square whose area is 10 cm², its side length is cm

(a) 100

(b) $\sqrt{10}$

(c) 10

(d) $\sqrt{100}$

33 Which of the following is the greatest ?

(a) 6.3×10^5

(b) 9.8×10^4

(c) 5.2×10^5

(d) 7.3×10^4

Q2: ANSWER THE FOLLOWING

1 $2^3 + 2^2 = 2^3$

2 If $x = \frac{2}{3}$, and $y = -\frac{1}{2}$, Find the value of: x^2y^2 and $(x-y)^{-1}$

$$x^2y^2 = \left(\frac{2}{3}\right)^2 \times \left(-\frac{1}{2}\right)^2 = \frac{4}{9} \times \frac{1}{4} = \frac{1}{9}$$

$$(x-y)^{-1} = \left(\frac{2}{3} - \frac{1}{2}\right)^{-1} = \left(\frac{4-3}{6}\right)^{-1} = \left(\frac{1}{6}\right)^{-1} = 6$$

3 Calculate the value of the following in the standard form:

$(5.4 \times 10^4) + (3.7 \times 10^5)$

$$10^4(5.4 + 3.7 \times 10) = 10^4(5.4 + 37) = 10^4 \times 42.4 = 4.24 \times 10^5$$

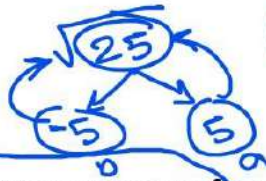
4 Simplify to the simplest form: $\frac{5^7 \times 5^{-4}}{5^3} = \frac{5^7}{5^4 \times 5^3} = \frac{5^7}{5^7} = 1$

5 Simplify the following to the simplest form: $1 \frac{1}{3} \times \sqrt{\frac{81}{16}} \times \left(\frac{1}{2}\right)^0$

$$1 \frac{1}{3} \times \frac{9}{4} \times 1 = 3$$



FOLLOW US



6 If a and b are the two square roots of c where $c \neq 0$, complete the following :

a $a + b = \dots \text{zero} \dots$

b $\frac{a}{b} = \dots \text{1} \dots$

7 If $(x^6)^2 = (x^3)^k$, then $k = \dots 4 \dots$

8 Simplify: $\frac{x^3 \times x^{-2}}{x^{-5} \times x}$, Then find the numerical value of the result when: $x = -2$

$$\frac{x^3 \times x^5}{x^2 \times x} = \frac{x^8}{x^3} = x^5$$

$$(-2)^5 = -32$$

9 The sum of the two square roots of the number 16 is $\dots \text{zero} \dots$



10 Calculate the value of the following in the scientific notation:

$$(3.6 \times 10^8) \times (1.8 \times 10^3)$$

$$(3.6 \times 1.8) \times (10^8 \times 10^3)$$

$$6.48 \times 10^{11}$$



11 By using prime factors and exponents write each of the following:

a $180 = \dots 2^2 \times 3^2 \times 5 \dots$

b $324 = \dots 2^2 \times 3^4 \dots$

12 Find in the simplest form:

a $\left(\frac{3^4 \times 7^4}{7^4 \times 3^3}\right)^{-1}$

$$\frac{3^4 \times 7^4}{3^3 \times 7^4} = \frac{3}{1} = 3$$

b $(7^0 \times 2^{-2})^{-3}$

$$\frac{1}{7^0 \times 2^2} = \frac{1}{2^2} = \frac{1}{4}$$

c $\frac{8 \times 8^{-3}}{8^{-4}}$

$$\frac{8^1 \times 8^{-3}}{8^{-4}} = \frac{8^{-2}}{8^{-4}} = 8^2 = 64$$

13 A square whose area is 0.81 cm^2 , Find its perimeter.

$$A = s^2 \quad | \quad s = \sqrt{0.81} = 0.9 \text{ cm}$$

$$0.81 = s^2 \quad | \quad \text{perimeter} = 4s = 4 \times 0.9 = 3.6 \text{ cm}$$

14 Find the Solution set of $4x^3 = -32$ in \mathbb{Z}

$$x^3 = -8 \quad x = \sqrt[3]{-8} = -2$$

15 Put in the scientific notation : 0.000014×10^2

$$1.4 \times 10^{-3}$$



FOLLOW US

- 16 The total area of a cube is 294 square centimeters.
Find the length of its edge.

$\text{Total} = 6s^2$ Area of one face = $294 \div 6 = 49 \text{ cm}^2$
 $A = s^2$ $49 = s^2$ $s = \sqrt{49} = 7 \text{ cm}$

- 17 Find the S.S of the following in Q:

a $x^3 + 26 = -1$

$x^3 = -27$
 $x = -3$ S.S = $\{-3\}$

b $2x^2 + 1 = 33$

$2x^2 = 32$ $x^2 = 16$
 $x = \pm 4$
 S.S = $\{-4, 4\}$

c $(x-1)^3 + 2 = -6$

$(x-1)^3 = -8$
 $x-1 = -2$ $x = -1$
 S.S = $\{-1\}$

d $3x^2 + 75 = 0$

$3x^2 = -75$ $x^2 = -25$
 $x = \pm \sqrt{-25}$
 S.S = \emptyset

e $2(x^2 - 3) = x^2 + 3$

$2x^2 - 6 = x^2 + 3$ $x^2 = 9$
 $2x^2 - x^2 = 3 + 6$ $x = \pm 3$
 S.S = $\{-3, 3\}$

f $(x-1)^3 = 216$

$x-1 = 6$ $x = 7$
 S.S = $\{7\}$

- 18 Calculate the value of the following in the scientific notation:

$(3.6 \times 10^8) \times (1.8 \times 10^3)$

6.48×10^{11}

- 19 Simplify: $\frac{x^3 \times x^{-2}}{x^{-5} \times x}$, Then find the numerical value of the result when: $x = -2$

x^6

- 20 Simplify the following to the simplest form: $\left(\frac{-1}{2}\right)^2 \times \sqrt{\frac{81}{25}} \times \frac{4}{3}$

$\frac{1}{4} \times \frac{9}{5} \times \frac{4}{3} = \frac{3}{5}$



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Q1: CHOOSE THE CORRECT ANSWER

1 The inequality which represent the maximum speed of a car is 80 km/hr is

(a) $x > 80$

(b) $x < 80$

(c) $x \geq 80$

(d) $x \leq 80$

2 If $x > 7$, then $-x$

(a) > -7

(b) ≥ -7

(c) < -7

(d) ≤ -7

3 If $\frac{x}{y} = 70$, then $\frac{x}{2y} =$

(a) 35

(b) 68

(c) 72

(d) 140

4 If $x - y = 4$, and $x + y = 7$, then $x^2 - y^2 =$

(a) 4

(b) 7

(c) 3

(d) 28

5 The solution set of the inequality: $-4x > 3$ in \mathbb{Z}^+ is

(a) $\{0, -1, -2, \dots\}$

(b) $\{0, 1, 2, 3, 4, \dots\}$

(c) $\{0\}$

(d) \emptyset

6 If $x^2 = 16$, $y^2 = 9$ and $xy = 12$, then $(x - y)^2 =$

(a) 49

(b) 165

(c) $-1 \mid 6 + 9 - 2 \times 12$

(d) 1

7 If $x^2 = 10$, $y^2 = 7$, then $(x + y)(x - y) =$

(a) 70

(b) 17

(c) 3

(d) -3

8 3 belongs to the solution set of the inequality:, where $x \in \mathbb{Z}$

(a) $x > 3$

(b) $-x < -3$

(c) $x < 3$

(d) $-x \geq -3$

9 $6y(3y^2 - 4y + 2) =$

(a) $18y^3 + 24y^3 + 12y$

(b) $18y^3 - 4y + 2$

(c) $18y^2 - 24y + 2$

(d) $18y^3 - 24y^2 + 12y$



FOLLOW US

PREP 1 - UNIT (2)

$$13x \times 2 = 26x$$

$$(8x + 5x) \times 2$$

- 10 The perimeter of the rectangle whose dimensions are $8x$, $5x$ is

(a) $40x^2$

(b) $13x$

(c) $40x$

(d) $26x$

- 11 If $\frac{a}{7} > \frac{b}{9}$, then $9a$ $7b$

(a) $>$

(b) $<$

(c) $=$

(d) \leq

- 12 If $(x+3)(x-3) = x^2 + k$, then $k =$

(a) 6

(b) 9

(c) -6

(d) -9

- 13 If $-x > 4$, then x

(a) $x > 4$

(b) $x < 4$

(c) $x < -4$

(d) $x > -4$

- 14 If $x - y = 4$ and $x + y = 10$, then $x(x - y) + y(x - y) =$

(a) 4

(b) 6

(c) 14

(d) 40

- 15 If $x < 0 < y$, $|x| > y$, Then $x + y$ zero

(a) $>$

(b) $<$

(c) $=$

(d) \geq

- 16 If $(x - y)(2x + y) = 2x^2 + kxy - y^2$, then $k =$

(a) 3

(b) 4

(c) -1

(d) 1

- 17 If $\frac{x}{-3} < 2$, then x

(a) $>$

(b) $<$

(c) $=$

(d) \geq

- 18 If $(x + 5)(x - 5) = x^2 + b$, then $b =$

(a) 25

(b) -25

(c) 10

(d) -10

- 19 The volume of a cuboid whose dimensions are $5x$ cm, $2x$ cm, and $2x$ cm, is cm^3 .

(a) $9x$

(b) $20x^2$

(c) $9x^3$

(d) $20x^3$



FOLLOW US

$$3y \times 3y = 9y^2$$

20 If $3y$ is the side length of a square, then its area equals

- (a) $12y$ (b) $9y$ (c) $9y^2$ (d) $81y^2$

21 The coefficient of xy in $(2x + 3y)^2$ is

- (a) 1 (b) 5 (c) 6 (d) 12

22 If $(4x - 5)^2 = ax^2 + bx + c$, what is the value of a ?

- (a) 20 (b) -20 (c) 16 (d) -10

23 $k(3m + 2) = 36m^2 + 24m$, then $k =$

- (a) $12m$ (b) 12 (c) $18m$ (d) $6m$

24 If $(x - y)(2x + y) = 2x^2 + kxy - y^2$, then $k =$

- (a) 3 (b) 4 (c) -1 (d) 1

25 A rectangle whose length is $3x^2$ cm, and its width is $5x$ cm, then its area is cm^2 .

- (a) $15x$ (b) $15x^2$ (c) $8x^3$ (d) $15x^3$

Q2: ANSWER THE FOLLOWING

1 Simplify: $(x - 3)(x + 4) + 9$, then find numerical value of the result when $x = 5$

$$x^2 + 4x - 3x - 12 + 9 \quad \text{at } x = 5$$

$$x^2 + x - 3 \quad (5)^2 + 5 - 3 = 25 + 5 - 3 = 27$$

2 Solve the following equation in z : $x(x - 2) + 2(x - 2) = 0$

$$(x - 2)(x + 2) = 0$$

$$x - 2 = 0 \quad x + 2 = 0$$

$$x = 2 \quad x = -2$$

3 $(x + 5)(x + \dots) = x^2 + \dots + 15$

$$(3x + 5x)$$



FOLLOW US

4 Find in the simplest form each of the following:

a) $-5m(m+2)$

$-5m^2 - 10m$

b) $(x+5)(x-5)$

$x^2 - 25$

c) $(x+3)^2(6-x)$

$(x^2+9+6x)(6-x)$

$6x^2 - x^3 + 54 - 9x + 36x - 6x^2$
 $-x^3 + 27x + 54$

d) $(7-5x)(5x+7)$

$(7-5x)(7+5x)$

$49 - 25x^2$

e) $x(x^2-x-1)+3(2x^2+x+1)$

$x^3 - x^2 - x + 6x^2 + 3x + 3$
 $x^3 + 5x^2 + 2x + 3$

f) $-3m^2(-2m+3n-1)$

$6m^3 - 9m^2n + 3m^2$

g) $(a+b)^2 - (a+b)(a-b)$

$a^2 + b^2 + 2ab - (a^2 - b^2)$

$a^2 + b^2 + 2ab - a^2 + b^2$
 $2b^2 + 2ab$

h) $(2x-1)(x^2-3x+4)$

$2x^3 - 6x^2 + 8x - x^2 + 3x - 4$

$2x^3 - 7x^2 + 11x - 4$

5) $2x \cdot (3x+y) = 6x^2 + 2xy$

6 Find the solution set of the following inequalities in \mathbb{Z} :

a) $5 - 3x \geq 14$

$-3x \geq 9$
 $x \leq -3$

b) $3(x-7) \geq 7(x-3)$

$3x - 21 \geq 7x - 21$
 $3x - 7x \geq -21 + 21$
 $-4x \geq 0$
 $x \leq 0$

c) $3(2x-1) > 9$

$6x - 3 > 9$
 $6x > 12$
 $x > 2$

d) $x - 3(x-5) \geq x+7$

$x - 3x + 15 \geq x + 7$
 $-2x + 15 \geq x + 7$
 $-3x \geq -8$
 $x \leq \frac{8}{3}$

7 Find the S.S of $4(x+3) > 7x-9$ If the substitution set is \mathbb{Q}

$4x + 12 > 7x - 9$
 $4x - 7x > -9 - 12$
 $-3x > -21$
 $x < 7$

S.S = $\{x : x \in \mathbb{Q} \mid x < 7\}$



FOLLOW US

8 Reduce: $(x-3)^2 - (x-3)(x+3)$

$$x^2 + 9 - 6x - (x^2 - 9) \quad | \quad x^2 + 9 - 6x - x^2 + 9$$

$$\boxed{-6x + 18}$$

9 $(a + \dots)^2 = \dots + \dots + 16$

10 Find the S.S of $3(x+2) \geq 2(x+1)$, If the substitution set is N

$$3x + 6 \geq 2x + 2 \quad | \quad x \geq -4$$

$$S.S = \{0, 1, 2, \dots\}$$

11 $(x+7)(x-7) = x^2 + \dots$

12 Simplify to the simplest form the expression: $2x(2x+1) + 3x(x+2)$, then find the numerical value of the expression when $x = -1$

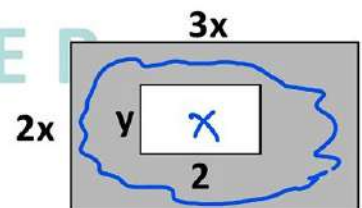
$$4x^2 + 2x + 3x^2 + 6x \quad | \quad 7x(-1)^2 + 8x(-1)$$

$$7x^2 + 8x \quad | \quad 7 - 8 = -1$$

13 Find in the simplest form the expression which represents the shaded part of the opposite figure:

Greater rectangle = $2x(3x) = 6x^2$
 Smaller rectangle = $4 \times 2 = 8$

$$\boxed{\text{shaded} = 6x^2 - 8}$$



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حمل الآن

مجاناً وحصرياً

المراجعة رقم (4)

اختبار شهر فبراير



Q1: Choose the correct answer :-

- 1 Which of the following equals $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$?
(a) 3×7 (b) 7^3 (c) 3^7 (d) $3 + 7$
- 2 Which of the following equals $(-9)^2$?
(a) -81 (b) -18 (c) 18 (d) 81
- 3 If $7^n \times a^m = a \times 7 \times a \times a \times 7$, what is the value of $n + m$?
(a) 3 (b) 2 (c) 6 (d) 5
- 4 Which of the following equals $(-2)^3$?
(a) -6 (b) -8 (c) 6 (d) 8
- 5 Which of the following equals 2^{-4} ?
(a) -16 (b) 16 (c) $\frac{1}{8}$ (d) $\frac{1}{16}$
- 6 Which of the following is the multiplicative inverse of the number (-1) ?
(a) $(-1)^3$ (b) $(-1)^2$ (c) 1^3 (d) 1^2
- 7 Which of the following is the additive inverse of the number 4^{-3} ?
(a) $(-4)^3$ (b) $(-4)^{-3}$ (c) 4^3 (d) 4^{-3}
- 8 $5a^0 - (5a)^0 = \text{-----}$
(a) 0 (b) 4 (c) 5 (d) 10
- 9 If $2^{-5} \times a = 1$, what is the value of a ?
(a) 2^5 (b) 2^{-5} (c) 5^2 (d) 5^{-2}
- 10 Which of the following is one quarter of the number 2^{20} ?
(a) 2^5 (b) 2^{10} (c) 2^{19} (d) 2^{18}

- 11 Which of the following equals a third of the number 3^x ?
(a) 1^x (b) 3^{x+1} (c) 3^{x-1} (d) $(\frac{1}{3})^x$
- 12 Which of the following numbers is written in scientific notation ?
(a) $1.5 \times 10^{4.5}$ (b) 15×10^5 (c) 31.5×10^5 (d) 3.15×10^5
- 13 Which of the following expresses the number 8 million in scientific notation?
(a) 8×10^7 (b) 8×10^6 (c) 8×10^{-6} (d) 8×10^8
- 14 If $6.3 \times 10^n = 0.00063$, what is the value of n ?
(a) - 4 (b) - 3 (c) 4 (d) 3
- 15 If the number $y \times 10^{-9}$ is written in scientific notation , what could be the value of y?
(a) 0.6 (b) 6 (c) 60 (d) 600
- 16 If $39 \times 10^{-8} = k \times 10^{-7}$, what is the value of k ?
(a) 39 (b) 3.9 (c) 0.39 (d) 0.039
- 17 Which of the following is the largest ?
(a) 6.3×10^5 (b) 9.8×10^4 (c) 5.2×10^5 (d) 7.3×10^4
- 18 If the speed of light is equal to 300,000 km/s , what is the speed of light in m/s?
(a) 3×10^5 (b) 3×10^7 (c) 3×10^8 (d) 3×10^{10}
- 19 Which of the following numbers is not in scientific notation ?
(a) 1.5×10^5 (b) 15×10^5 (c) 3.15×10^5 (d) 9.85×10^5

20 What is the value of $\sqrt{(-5)^2}$?

(a) - 5

(b) 5

(c) 25

(d) ± 5

21 Which of the following equals $\sqrt{16x^2}$?

(a) $4x^2$

(b) $4x$

(c) $4|x|$

(d) $-4x$

22 What is the multiplicative inverse of the number $\sqrt{\frac{9}{25}}$?

(a) $-\frac{3}{5}$

(b) $\frac{3}{5}$

(c) $-\frac{5}{3}$

(d) $\frac{5}{3}$

23 If a and b are the square roots of the number c , what is a + b equal to ?

(a) 2 a

(b) 2 b

(c) 0

(d) 1

24 $\sqrt{4+\dots\dots\dots} = 4$

(a) 0

(b) 16

(c) 4

(d) 12

25 If $X = \sqrt{\frac{1}{9}}$, what is the value of X^3 ?

(a) $\frac{1}{9}$

(b) $\frac{1}{27}$

(c) $\frac{1}{3}$

(d) $\frac{1}{81}$

26 If $a = -\frac{1}{2}$ and $b = -\frac{9}{8}$, then $\sqrt{ab} = \dots\dots\dots$

(a) $\frac{9}{8}$

(b) $\frac{3}{4}$

(c) $\frac{9}{16}$

(d) $-\frac{3}{4}$

27 What is the value of $\sqrt[3]{0.008}$ in simplest form ?

(a) 0.0002

(b) $\frac{1}{2}$

(c) $\frac{1}{5}$

(d) $\frac{8}{10}$

28 If $x^3 = -27$, What is the value of X ?

(a) 0.0002

(b) ± 3

(c) -3

(d) -9

29 $\sqrt[3]{64-\dots\dots\dots} = 3$

(a) 27

(b) 27

(c) 37

(d) 4

30 $|\sqrt[3]{-125}| = \sqrt{\dots\dots\dots}$

(a) 5

(b) -5

(c) 25

(d) -25

31 If $\sqrt{x} = 27$ What is the value of $\sqrt[3]{x}$?

(a) 9

(b) 3

(c) 81

(d) 27

32 If $\sqrt[3]{b} = -8$ What is the value of b ?

(a) -2

(b) 2

(c) 64

(d) -512

33 What is the value of $\sqrt[3]{\sqrt{64}}$?

(a) 4

(b) 2

(c) 8

(d) 64

34 What is the inequality that expresses that the temperature X is less than 40° .

(a) $X < 40^\circ$

(b) $X > 40^\circ$

(c) $X \leq 40^\circ$

(d) $X \geq 40^\circ$

35 Which of the following inequalities has $X = -7$ as one of its solutions in Z ?

(a) $X < -7$

(b) $X > -7$

(c) $X > -6$

(d) $-X \geq -7$

36 What is the inequality that expresses that the twice the number X is less than 5 .

(a) $X - 2 < 5$

(b) $X + 2 > 5$

(c) $2X < 5$

(d) $2X > 5$

37 If $X - 1 > 4$,then which of the following can be the value of X ?

(a) 3

(b) 4

(c) 5

(d) 7

38 If $A > B$ and $C < 0$,then $A \times C \dots\dots\dots B \times C$

(a) $>$

(b) $<$

(c) \geq

(d) \leq

39 $(2X)(3X) = \dots\dots\dots$

(a) $5X$

(b) $6X$

(c) $5X^2$

(d) $6X^2$

40 $2(X + 3) = \dots\dots\dots$

- (a) $2X^2 + 6X$ (b) $2X + 6$ (c) $2X + 3$ (d) $X + 6$

41 $X(X - 1) + X = \dots\dots\dots$

- (a) $X(2X - 1)$ (b) X^2 (c) $2X^2$ (d) $X^2 - X$

42 If the edge length of a cube is $2b$, then its volume = $\dots\dots\dots$

- (a) $4b^2$ (b) $2b^3$ (c) $4b^3$ (d) $8b^3$

43 $(3a^4b)(5a^2b^2)(2a^3) = \dots\dots\dots$

- (a) $60a^{11}b^3$ (b) $30a^{10}b^2$ (c) $15a^{10}b^3$ (d) $30a^9b^3$

44 If $a + 3b = 7$, $c = 3$, then the value of the expression: $a + 3(b + c) = \dots\dots\dots$

- (a) 10 (b) 13 (c) 15 (d) 16

Q2: Complete the following :-

1 Half of the number 2^{10} is $\dots\dots\dots$

2 Double the number 2^{10} is $\dots\dots\dots$

3 $2^{10} \times 2^{-10} = 3^{\square}$

4 If $X = y$, then $(-3)^{X-y} = \dots\dots\dots$

5 The multiplicative inverse of the number 5^{-1} is $\dots\dots\dots$

6 If $(\frac{3}{4})^7 = X \times (\frac{3}{4})^5$, then $X = \dots\dots\dots$

7 $\sqrt{\frac{16}{9}} \times \frac{3}{4} = \dots\dots\dots$

8 The multiplicative inverse of the number $\sqrt{\frac{4}{25}}$ in its simplest form is $\dots\dots\dots$

- 9 The additive inverse of the number $\sqrt{36x^4}$ is
- 10 $\sqrt{3 + \dots} = 7$
- 11 $\sqrt{3 \times \dots} = 9$
- 12 $\sqrt[3]{8} + \sqrt[3]{-8} = \dots$
- 13 If a cube has volume of 125 cubic c , then its edge length = cm
- 14 $\sqrt{x^{12}} = \sqrt[3]{\dots}$
- 15 $\sqrt[3]{64 + \dots} = 5$
- 16 $\sqrt[3]{-27x^6} = \dots$

Q3: Answer the following :-

- 1 Write each of the following using exponents :-
- (a) $(-3) \times (-3) \times (-3) \times (-3)$
.....
- (b) $7 \times 5 \times a \times a \times a \times 7$
.....
- 2 Write each of the following in exponential form such that the base is a prime number :-
- (a) 216 (b) 324

- 3 If $x = -3$, and $y = 4$, then find the numerical value of each of the following:- $x^2 + y^2$
-

- 4 Find the missing exponent in each of the following:-

a $a^{\square} \times a^7 = a^9$

b $q^{-3} \times q^{\square} = 1$

- 5 Write each of the following in scientific notation:-

a 192 000 000

b - 0.000721

c 571×10^{-9}

- 6 Arrange each of the following:-

a 73×10^{11} , 6.9×10^{12} , 0.537×10^{13} Ascendingly

.....

b 4 300 000, 3.4×10^6 , 0.37×10^7 Descendingly

.....

7 Write the result of each of the following in scientific notation : -

a $(2.1 \times 10^4) + (4.1 \times 10^5)$

.....

b $(3.21 \times 10^{13}) - (8.1 \times 10^{12})$

.....

8 Write the result of each of the following in scientific notation : -

a $(2.5 \times 10^6) \times (6 \times 10^{12})$

.....

b $(5 \times 10^4) \div (2.5 \times 10^{-3})$

.....

9 Write each of the following in standard form : -

a -1.2×10^{-4}

b 5.34×10^6

10 Write the following in the simplest form : -

a $\left(\frac{3}{2}\right)^2 + \sqrt[3]{\frac{125}{64}} + \sqrt{\frac{25}{4}}$

b $\sqrt{\frac{49}{4}} \times \left(\frac{2}{7}\right)^0 \times \left(-\frac{2}{7}\right)^2$

11 Find each of the following in its simplest form :-

a $(-\frac{2}{5})^2 \times (-\frac{5}{2})^3 \times (\frac{1}{5})^0$

.....

b $(-1)^{50} + (-1)^{99}$

.....

12 Find the value of each of the following :-

a $\frac{(-4)^2 \times 4^8}{(-4) \times (-4)^6}$

.....

b $\frac{(-3)^6}{(-3)^3} + \frac{(-4)^5}{(-4)^3}$

.....

13 Find the value of each of the following :-

a $-\sqrt{\frac{64}{25}}$

.....

b $\sqrt{36 + 64}$

.....

c $\sqrt{4} - \sqrt[3]{-8}$

.....

14 A cube has a volume of 3,375 cubic cm . Find its total surface area and its lateral area .

.....

.....

.....

- 15 The total surface area of a cube is 294 sq cm . Find the length of its edge .

.....

.....

.....

- 16 Find the solution set of each of the following equations in Z : -

a $6x^2 - 2 = 4x^2 + 6$

.....

.....

b $3x^3 - 4 = 2x^3 + 4$

.....

.....

- 17 Find the S.S for the each of the following in N : -

a $2x - 3 < 7$

.....

.....

b $2\frac{1}{2}x + 4 \geq -2$

.....

.....

- 18 Express each of the following with an inequality : -

a The maximum speed of your car is 80 km/h.

.....

b You must purchase at least 200 L.E to get the discount.

.....

19 Find the S.S for the each of the following in Z : -

a $3(x+2) \geq -2(x+1)$

.....
.....

b $2x-3 < 7$

.....
.....

20 Find the S.S for the each of the following in Q : -

a $x-2 \leq 3x+7$

.....
.....

b $2-3(x-5) \geq x+7$

.....
.....

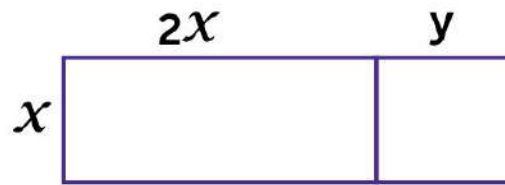
21 The sides length of a tringle are 6 cm , 8 cm and $(2x-4)$ cm , What are the possible integer values of x ?

.....
.....
.....

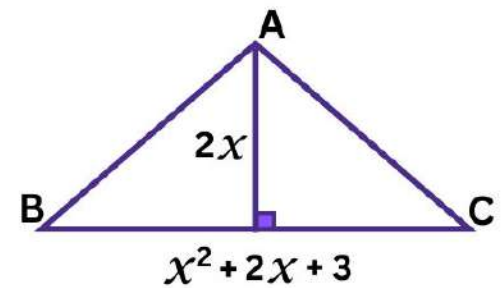
22 Simplify to the simplest form : $2a(3a-1) + 3a(a+2)$, then find the value when $a = 2$

.....
.....

- 23 Find the expression that represents the area of the following in the simplest form :



- 24 Find the area of the opposite triangle ABC in terms of x then calculate the value of its area when $x = 3$



- 25 Simplify each of the following : -

a $2x(x^2 - 2x - 3) - x^2(3x - 5)$

b $3a(4a - 1) + 2a(a + 3) - 5a(2a - 1)$

c $8x^2(2x^3 - 3x^2 - x + 4)$

حمل الآن

مجاناً وحصرياً

المراجعة رقم (5)

اختبار شهر فبراير



Unit 1**Q1 Choose the correct answer:-**

1) $7^2 \times 7^3 = \dots\dots\dots$

- a) 7^6 b) 14^5 c) 7^5 d) 49^6

2) $5^8 \div 5^4 = \dots\dots\dots$

- a) 14 b) 5^4 c) 1^2 d) 5^2

3) $3^5 \times \dots\dots\dots = 3^{10}$

- a) 3^2 b) 3^5 c) 3^{15} d) 3^3

4) $(-7)^9 \div \dots\dots\dots = (-7)^3$

- a) 7^6 b) -7^3 c) $(-7)^{12}$ d) 7^{27}

5) Half of the number $2^6 = \dots\dots\dots$

- a) 1^6 b) 2^3 c) 1^3 d) 2^5

6) Which of the following equals $(-9)^2$?

- a) -81 b) -18 c) 18 d) 81

7) If $7^n \times a^m = a \times 7 \times a \times a \times 7$, what is the value of $n + m$?

- a) 3 b) 2 c) 5 d) 6

8) Which of the following equals -3^4 ?

- a) -12 b) -7 c) -81 d) 81

9) Which of the following equals 2^{-4} ?

- a) -16 b) 16 c) $\frac{1}{8}$ d) $\frac{1}{16}$

10) Which of the following is the multiplicative inverse of $(-1)^3$?

- a) $(-1)^3$ b) $(-1)^2$ c) 1^3 d) 1^2

11) Which of the following is the additive inverse of 4^{-3} ?

- a) $(-4)^3$ b) $(-4)^{-3}$ c) 4^3 d) 4^{-3}

12) Which of the following equals $a^{-1} \times a^3$?

- a) a^2 b) a^4 c) $\frac{1}{a^2}$ d) $\frac{1}{a^3}$



- 13) Which of the following equals $\frac{y^{-2}}{y^{-6}}$?
a) y^4 b) y^8 c) $\frac{1}{y^4}$ d) $\frac{1}{y^8}$
- 14) $5a^0 - (5a)^0 = \dots\dots\dots$
a) 0 b) 5 c) 4 d) 10
- 15) Which of the following equals the third of the number 3^x ?
a) 1^x b) $(\frac{1}{3})^x$ c) 3^{x-1} d) 3^{x+1}
- 16) Which of the following equals one quarter of the number 2^{20} ?
a) 2^5 b) 2^{10} c) 2^{18} d) 2^{19}
- 17) Which of the following equals $2^a + 2^a$?
a) 4^{2a} b) 2^a c) 2^{2a} d) 2^{a+1}
- 18) Which of the following numbers is written scientific notation ?
a) $1.5 \times 10^{4.5}$ b) 15×10^5 c) 31.5×10^5 d) 3.15×10^5
- 19) Which of the following equals 8 million in scientific notation ?
a) 8×10^7 b) 8×10^6 c) 8×10^8 d) 8×10^{-6}
- 20) Which of the following equals 0.000073 ?
a) 7.3×10^{-5} b) 7.3×10^6 c) 7.3×10^5 d) 7.3×10^{-6}
- 21) If $6.3 \times 10^n = 0.00063$, what is the value of n ?
a) -4 b) -3 c) 4 d) 3
- 22) If the number $y \times 10^{-9}$ is written in scientific notation, then y = ...
a) 6 b) 60 c) 0.6 d) 600
- 23) Which of the following equals 6000×50 ?
a) 30×10^5 b) 30×10^3 c) 300×10^2 d) 3×10^5
- 24) Which of the following is the greatest ?
a) 6.3×10^5 b) 5.2×10^5 c) 9.8×10^4 d) 7.3×10^4
- 25) If $\sqrt{x} = 5$, then x =
a) 10 b) 20 c) 25 d) ± 25

- 26) What is the value of $\sqrt{(-5)^2}$?
a) 5 b) -5 c) 25 d) ± 5
- 27) Which of the following equals $\sqrt{16x^2}$?
a) $4x$ b) $-4x$ c) $4x^2$ d) $4|x|$
- 28) Which of the following is the multiplicative inverse of $\sqrt{\frac{9}{25}}$?
a) $-\frac{5}{3}$ b) $\frac{5}{3}$ c) $-\frac{3}{5}$ d) $\frac{3}{5}$
- 29) Which of the following is the additive inverse of $-\sqrt{0.16}$?
a) 0.4 b) -0.4 c) 0.8 d) -0.8
- 30) If a , b are two square roots of the number c , then a + b=.....
a) 2a b) 2b c) 0 d) 1
- 31) If $x = \sqrt{\frac{1}{9}}$, what is the value of x^3 ?
a) $\frac{1}{3}$ b) $\frac{1}{9}$ c) $\frac{1}{27}$ d) $\frac{1}{81}$
- 32) $\sqrt{4 + \dots} = 4$
a) 0 b) 4 c) 12 d) 16
- 33) $\sqrt{36} + \sqrt{16} = \sqrt{\dots}$
a) 52 b) 10 c) 100 d) 120
- 34) If $x^3 = -27$, what is the value of x ?
a) 3 b) -9 c) -3 d) ± 3
- 35) What is the value of $\sqrt[3]{\sqrt{64}}$?
a) 2 b) 4 c) 8 d) 64
- 36) If $\sqrt[3]{b} = -8$, what is the value of b ?
a) 2 b) -2 c) -512 d) 64
- 37) If $\sqrt[3]{y} = -\sqrt{25}$, what is the value of y ?
a) 5 b) -5 c) -125 d) 125



38) $|\sqrt[3]{-125}| = \sqrt{\dots\dots\dots}$

a) 5

b) -5

c) -25

d) 25

39) If $a = 5^3$, then what is the value of $\sqrt[3]{a}$?

a) 5

b) 3

c) 125

d) 25

40) If $x^2 = 64$, then $\sqrt[3]{x} = \dots\dots\dots$

a) 2

b) -2

c) 4

d) ± 2

41) $\sqrt[3]{64 - \dots} = 3$

a) 9

b) 27

c) 37

d) 55

Q2 Complete the following:-

1) $(\frac{3}{5})^3 = \dots\dots\dots$

2) $\frac{5 \times 5^3}{5^4} = \dots\dots\dots$

3) $\frac{5^7 \times 5^2}{5^3 \times 5^5} = \dots\dots\dots$

4) $\frac{(-a)^4 \times a^6}{(-a)^3 \times (-a)^5} = \dots\dots\dots$

5) $\frac{x^7 \times x^3}{x^4 \times x^8} = \dots\dots\dots$

6) Double the number 2^{10} is $\dots\dots\dots$

7) half the number 2^{10} is $\dots\dots\dots$

8) $7^{10} \times 7^{-10} = 3^{\dots\dots\dots}$

9) $2x^{-2} y^{-3} = \frac{2}{\dots\dots\dots}$

10) If $x = y$, then $(-3)^{x-y} = \dots\dots\dots$

11) the multiplicative inverse of 5^{-1} is $\dots\dots\dots$

12) $3^4 + 3^4 + 3^4 = 3^n$, then $n = \dots\dots\dots$



Q3 Answer the following:-

1) If $a=2$, $b=-5$, find the numerical value of

a) $3b^2$

b) $(3b)^2$

c) $a^3 + b^3$

d) $(a + b)^3$

2) Find the missing number :-

a) $a^{\dots} \times a^7 = a^9$

b) $b^{-3} \times b^{\dots} = 1$

c) $\frac{b^{\dots}}{b^4} = b^3$

3) Find the value of X in Z of the following equations :-

a) $\sqrt{x} + 1 = 7$

b) $\sqrt{x} = 9$

c) $2x^2 + 1 = 33$



Unit 2 (1&2)

Q1 Choose the correct answer:-

- 1) What is the inequality that expresses the following situation , Farida needs at least two hours to complete the homework ?
 a) $x < 2$ b) $x > 2$ c) $x \leq 2$ d) $x \geq 2$
- 2) What is the inequality that expresses that the temperature X is less than 40° ?
 a) $x < 40^\circ$ b) $x > 40^\circ$ c) $x \leq 40^\circ$ d) $x \geq 40^\circ$
- 3) What is the inequality that expresses that twice the number X is less than 5 ?
 a) $x - 2 < 5$ b) $x + 2 > 5$ c) $2x < 5$ d) $2x > 5$
- 4) If $-x < 5$, then which of the following is correct ?
 a) $x < 5$ b) $x > 5$ c) $x < -5$ d) $x > -5$
- 5) If $X \in \mathbb{N}$, what is the solution set of inequality $-X > 3$?
 a) $\{-4, -5, \dots\}$ b) $\{4, 5, 6, \dots\}$ c) $\{-3\}$ d) \emptyset
- 6) If $X - 1 > 4$, then $X = \dots\dots\dots$
 a) 4 b) 3 c) 5 d) 7
- 7) Which of the following is equivalent to the inequality $\frac{X}{3} > 4$?
 a) $x < 12$ b) $x > 12$ c) $x < \frac{4}{3}$ d) $x > \frac{4}{3}$
- 8) If $X > Y$, then $\frac{1}{X} \dots\dots\dots \frac{1}{Y}$
 a) $<$ b) $>$ c) $=$ d) \geq
- 9) $(-3x^2)(4x^3) = \dots\dots\dots$
 a) $12x$ b) $12x^5$ c) $-12x^5$ d) $-12x^6$
- 10) $(3a^4 b)(5a^2 b^2)(2a^3) = \dots\dots\dots$
 a) $30a^{10} b^2$ b) $30a^9 b^3$ c) $60a^{11} b^3$ d) $15a^{10} b^3$

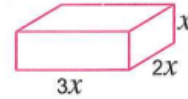
11) If the side length of a cube is $2b$, what is volume of the cube?

- a) $2b^3$ b) $8b^3$ c) $4b^3$ d) $4b^2$

12) $2(x+3) = \dots\dots\dots$

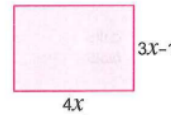
- a) $2x+3$ b) $2x^2+6x$ c) $2x+6$ d) $x+6$

13) What is the volume of the opposite cuboid ?



- a) $6x^3$ b) $6x$ c) $5x^3$ d) $6x^2$

14) What is the area of the opposite rectangle ?



- a) $12x-1$ b) $12x^2-4x$ c) $12x+4x$ d) $(12x)(4x)$

15) $x(x-1) + x = \dots\dots\dots$

- a) $2x^2$ b) x^2-x c) $x(2x-1)$ d) x^2

Q2 Complete the following :-

1) $6x^2y = 2x \times \dots\dots\dots$

2) $-4b^3c^4 = 2bc^2 \times \dots\dots\dots$

Q3 Answer the following :-

1) Find the solution set in \mathbb{N} :-

a) $x - 2 > 1$

b) $2x - 5 > -7$



2) Find the solution set in \mathbb{Z} :-

a) $2x + 5 \leq 11$

b) $5 - 3x \geq 14$

3) Find the solution set in \mathbb{Q} :-

a) $x - 2 \leq 3x + 7$

b) $3(2x - 1) > 9$

4) Find in the simplest form :-

a) $(-3a^3b^2)(-2ab^4)$

b) $-3x(x-5)$

5) Find in the simplest form $2a(3a-1)+3a(a+2)$ then find the value of the expression if $a=2$.

Unit 1

Answers

Q1 Choose the correct answer:-

- 1) $7^2 \times 7^3 = \dots\dots\dots$
 a) 7^6 b) 14^5 c) 7^5 d) 49^6
- 2) $5^8 \div 5^4 = \dots\dots\dots$
 a) 14 b) 5^4 c) 1^2 d) 5^2
- 3) $3^5 \times \dots\dots\dots = 3^{10}$
 a) 3^2 b) 3^5 c) 3^{15} d) 3^3
- 4) $(-7)^9 \div \dots\dots\dots = (-7)^3$
 a) 7^6 b) -7^3 c) $(-7)^{12}$ d) 7^{27}
- 5) Half of the number $2^6 = \dots\dots\dots$
 a) 1^6 b) 2^3 c) 1^3 d) 2^5
- 6) Which of the following equals $(-9)^2$?
 a) -81 b) -18 c) 18 d) 81
- 7) If $7^n \times a^m = a \times 7 \times a \times a \times 7$, what is the value of $n + m$?
 a) 3 b) 2 c) 5 d) 6
- 8) Which of the following equals -3^4 ?
 a) -12 b) -7 c) -81 d) 81
- 9) Which of the following equals 2^{-4} ?
 a) -16 b) 16 c) $\frac{1}{8}$ d) $\frac{1}{16}$
- 10) Which of the following is the multiplicative inverse of $(-1)^3$?
 a) $(-1)^3$ b) $(-1)^2$ c) 1^3 d) 1^2
- 11) Which of the following is the additive inverse of 4^{-3} ?
 a) $(-4)^3$ b) $(-4)^{-3}$ c) 4^3 d) 4^{-3}
- 12) Which of the following equals $a^{-1} \times a^3$?
 a) a^2 b) a^4 c) $\frac{1}{a^2}$ d) $\frac{1}{a^3}$



13) Which of the following equals $\frac{y^{-2}}{y^{-6}}$?

a) y^4

b) y^8

c) $\frac{1}{y^4}$

d) $\frac{1}{y^8}$

14) $5a^0 - (5a)^0 = \dots\dots\dots$

a) 0

b) 5

c) 4

d) 10

15) Which of the following equals the third of the number 3^x ?

a) 1^x

b) $(\frac{1}{3})^x$

c) 3^{x-1}

d) 3^{x+1}

16) Which of the following equals one quarter of the number 2^{20} ?

a) 2^5

b) 2^{10}

c) 2^{18}

d) 2^{19}

17) Which of the following equals $2^a + 2^a$?

a) 4^{2a}

b) 2^a

c) 2^{2a}

d) 2^{a+1}

18) Which of the following numbers is written scientific notation ?

a) $1.5 \times 10^{4.5}$

b) 15×10^5

c) 31.5×10^5

d) 3.15×10^5

19) Which of the following equals 8 million in scientific notation ?

a) 8×10^7

b) 8×10^6

c) 8×10^8

d) 8×10^{-6}

20) Which of the following equals 0.000073 ?

a) 7.3×10^{-5}

b) 7.3×10^6

c) 7.3×10^5

d) 7.3×10^{-6}

21) If $6.3 \times 10^n = 0.00063$, what is the value of n ?

a) -4

b) -3

c) 4

d) 3

22) If the number $y \times 10^{-9}$ is written in scientific notation, then $y = \dots$

a) 6

b) 60

c) 0.6

d) 600

23) Which of the following equals 6000×50 ?

a) 30×10^5

b) 30×10^3

c) 300×10^2

d) 3×10^5

24) If $\sqrt{x} = 5$, then $x = \dots\dots\dots$

a) 10

b) 20

c) 25

d) ± 25

25) Which of the following is the greatest ?

a) 6.3×10^5

b) 5.2×10^5

c) 9.8×10^4

d) 7.3×10^4



26) What is the value of $\sqrt{(-5)^2}$?

a) 5

b) -5

c) 25

d) ± 5

27) Which of the following equals $\sqrt{16x^2}$?

a) $4x$ b) $-4x$ c) $4x^2$ d) $4|x|$

28) Which of the following is the multiplicative inverse of $\sqrt{\frac{9}{25}}$?

a) $-\frac{5}{3}$ b) $\frac{5}{3}$ c) $-\frac{3}{5}$ d) $\frac{3}{5}$

29) Which of the following is the additive inverse of $-\sqrt{0.16}$?

a) 0.4

b) -0.4

c) 0.8

d) -0.8

30) If a , b are two square roots of the number c , then a + b=.....

a) 2a

b) 2b

c) 0

d) 1

31) If $x = \sqrt{\frac{1}{9}}$, what is the value of x^3 ?

a) $\frac{1}{3}$ b) $\frac{1}{9}$ c) $\frac{1}{27}$ d) $\frac{1}{81}$

32) $\sqrt{4 + \dots} = 4$

a) 0

b) 4

c) 12

d) 16

33) $\sqrt{36} + \sqrt{16} = \sqrt{\dots}$

a) 52

b) 10

c) 100

d) 120

34) If $x^3 = -27$, what is the value of x ?

a) 3

b) -9

c) -3

d) ± 3

35) What is the value of $\sqrt[3]{\sqrt{64}}$?

a) 2

b) 4

c) 8

d) 64

36) If $\sqrt[3]{b} = -8$, what is the value of b ?

a) 2

b) -2

c) -512

d) 64

37) If $\sqrt[3]{y} = -\sqrt{25}$, what is the value of y ?

a) 5

b) -5

c) -125

d) 125



38) $|\sqrt[3]{-125}| = \sqrt{\dots\dots\dots}$

a) 5

b) -5

c) -25

d) 25

39) If $a = 5^3$, then what is the value of $\sqrt[3]{a}$?

a) 5

b) 3

c) 125

d) 25

40) If $x^2 = 64$, then $\sqrt[3]{x} = \dots\dots\dots$

a) 2

b) -2

c) 4

d) ± 2

41) $\sqrt[3]{64 - \dots} = 3$

a) 9

b) 27

c) 37

d) 55

Q2 Complete the following:-

1) $(\frac{3}{5})^3 = \frac{27}{125}$

2) $\frac{5 \times 5^3}{5^4} = \frac{5^4}{5^4} = 5^0 = 1$

3) $\frac{5^7 \times 5^2}{5^3 \times 5^5} = \frac{5^9}{5^8} = 5$

4) $\frac{(-a)^4 \times a^6}{(-a)^3 \times (-a)^5} = \frac{a^{10}}{a^8} = a^2$

5) $\frac{x^7 \times x^3}{x^4 \times x^8} = \frac{x^{10}}{x^{12}} = x^{-2} = \frac{1}{x^2}$

6) Double the number 2^{10} is 2^{11}

7) half the number 2^{10} is 2^9

8) $7^{10} \times 7^{-10} = 3^0$

9) $2x^{-2} y^{-3} = \frac{2}{x^2 y^3}$

10) If $x = y$, then $(-3)^{x-y} = -3$

11) the multiplicative inverse of 5^{-1} is 5

12) $3^4 + 3^4 + 3^4 = 3^n$, then $n = 5$

Q3 Answer the following:-

1) If $a=2$, $b=-5$, find the numerical value of

a) $3b^2$

a) $3 \times (-5)^2 = 75$

b) $(3b)^2$

b) $(3 \times -5)^2 = 225$

c) $a^3 + b^3$

c) $2^3 + (-5)^3 = -117$

d) $(a + b)^3$

d) $[2 + (-5)] = -27$

2) Find the missing number :-

a) $a^2 \times a^7 = a^9$

b) $b^{-3} \times b^3 = 1$

c) $\frac{b^7}{b^4} = b^3$

3) Find the value of X in Z of the following equations :-

a) $\sqrt{x} + 1 = 7$

$$\sqrt{x} = 7 - 1$$

$$\sqrt{x} = 6 , x = 36$$

b) $\sqrt{x} = 9 , x = 81$

c) $2x^2 + 1 = 33$

$$2x^2 = 33 - 1$$

$$2x^2 = 32$$

$$x^2 = 32 \div 2 = 16 , x = 4$$



Unit 2

Q1 Choose the correct answer:-

- 1) What is the inequality that expresses the following situation , Farida needs at least two hours to complete the homework
 a) $x < 2$ b) $x > 2$ c) $x \leq 2$ **d) $x \geq 2$**
- 2) What is the inequality that expresses that the temperature X is less than 40° ?
a) $x < 40^\circ$ b) $x > 40^\circ$ c) $x \leq 40^\circ$ d) $x \geq 40^\circ$
- 3) What is the inequality that expresses that twice the number X is less than 5 ?
 a) $x - 2 < 5$ b) $x + 2 > 5$ **c) $2x < 5$** d) $2x > 5$
- 4) If $-x < 5$, then which of the following is correct ?
 a) $x < 5$ b) $x > 5$ c) $x < -5$ **d) $x > -5$**
- 5) If $X \in \mathbb{N}$, what is the solution set of inequality $-X > 3$?
 a) $\{-4, -5, \dots\}$ b) $\{4, 5, 6, \dots\}$ c) $\{-3\}$ **d) \emptyset**
- 6) If $X - 1 > 4$, then $X = \dots\dots\dots$
 a) 4 b) 3 c) 5 **d) 7**
- 7) Which of the following is equivalent to the inequality $\frac{X}{3} > 4$?
 a) $x < 12$ **b) $x > 12$** c) $x < \frac{4}{3}$ d) $x > \frac{4}{3}$
- 8) If $X > Y$, then $\frac{1}{X} \dots\dots\dots \frac{1}{Y}$
a) $<$ b) $>$ c) $=$ d) \geq
- 9) $(-3x^2)(4x^3) = \dots\dots\dots$
 a) $12x$ b) $12x^5$ **c) $-12x^5$** d) $-12x^6$
- 10) $(3a^4 b)(5a^2 b^2)(2a^3) = \dots\dots\dots$
 a) $30a^{10} b^2$ **b) $30a^9 b^3$** c) $60a^{11} b^3$ d) $15a^{10} b^3$

11) If the side length of a cube is $2b$, what is volume of the cube?

a) $2b^3$

b) $8b^3$

c) $4b^3$

d) $4b^2$

12) $2(x+3) = \dots\dots\dots$

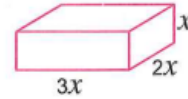
a) $2x+3$

b) $2x^2+6x$

c) $2x+6$

d) $x+6$

13) What is the volume of the opposite cuboid ?



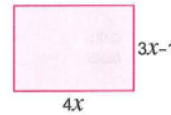
a) $6x^3$

b) $6x$

c) $5x^3$

d) $6x^2$

14) What is the area of the opposite rectangle ?



a) $12x-1$

b) $12x^2-4x$

c) $12x+4x$

d) $(12x)(4x)$

15) $x(x-1) + x = \dots\dots\dots$

a) $2x^2$

b) x^2-x

c) $x(2x-1)$

d) x^2

Q2 Complete the following :-

1) $6x^2y = 2x \times 3xy$

2) $-4b^3c^4 = 2bc^2 \times -2b^2c^2$

Q3 Answer the following :-

1) Find the solution set in \mathbb{N} :-

a) $x - 2 > 1$

$$x > 2+1$$

$$x > 3$$

$$S.S = \{4, 5, 6 \dots\dots\dots\}$$



b) $2x - 5 > -7$

$$2x > -7 + 5$$

$$2x > -2$$

$$x > -2 \div 2$$

$$x > -1$$

$$S.S = \{0, 1, 2, 3, \dots\}$$

2) Find the solution set in \mathbb{Z} :-

a) $2x + 5 \leq 11$

$$2x \leq 11 - 5$$

$$2x \leq 6$$

$$x \leq 6 \div 2$$

$$x \leq 3$$

$$S.S = \{3, 2, 1, 0, -1, -2, \dots\}$$

b) $5 - 3x \geq 14$

$$-3x \geq 14 - 5$$

$$-3x \geq 9$$

$$x \geq 9 \div (-3)$$

$$x \leq -3$$

$$S.S = \{-3, -4, -5, \dots\}$$

3) Find the solution set in \mathbb{Q} :-

a) $x - 2 \leq 3x + 7$

$$x - 3x \leq 7 + 2$$

$$-2x \leq 9$$

$$x \leq 9 \div (-2)$$

$$x \geq -4.5$$

$$S.S = \{X: X \in \mathbb{Q}, x \geq -4.5\}$$

b) $3(2x - 1) > 9$

$$6x - 3 > 9$$

$$6x > 9 + 3$$

$$6x > 12$$

$$x > 12 \div 6$$

$$x > 2$$

$$S.S = \{X: X \in \mathbb{Q}, x > 2\}$$

4) Find in the simplest form :-

c) $(-3a^3b^2)(-2ab^4) = 6a^4b^6$

d) $-3x(x-5) = -3x^2 + 15x$

5) Find in the simplest form $2a(3a-1)+3a(a+2)$ then find the value of the expression if $a=2$.

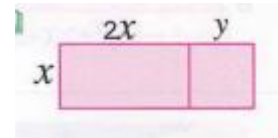
$$= 6a^2 - 2a + 3a^2 + 6a$$

$$= 9a^2 + 4a$$

$$\text{If } a = 2$$

$$9 \times 2^2 + 4 \times 2 = 44$$

6) Find in the simplest form the expression which represents the shaded part .



$$= x(2x+y)$$

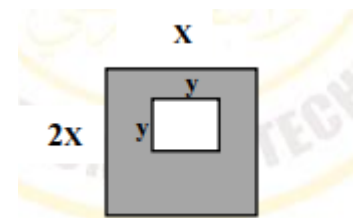
$$= 2x^2 + xy$$

7) Find in the simplest form the expression which represents the shaded part .

$$\text{area 1} = 2X \times X = 2X^2$$

$$\text{area 2} = Y \times X = XY$$

$$\text{area of shaded part} = 2X^2 - XY$$



حمل الآن

مجاناً وحصرياً

المراجعة رقم (6)

اختبار شهر فبراير



Q1) Choose the correct answer:

1- Which of the following is equivalent to 81?

- a) 3^3 b) 8^1 c) 9^2 d) 2^4

2-How would you write $6 \times 6 \times 6 \times 6 \times 6$ in exponential form?

- a) 6^5 b) 5^6 c) 6 d) 5

3- Which of the following is NOT equal to 1?

- a) 1^1 b) 10^1 c) 6^0 d) 1^9

4- What is equivalent to 10^3 ?

- a) 10 b) 100 c) 1000 d) 10,000



5- What is the value of 4^{-2} ?

- a)-16 b)-8 c)0.25 d)0.0625

6- Which one of the following has the least value?

- a) 2^{-3} b) 3^{-2} c) 3^{-3} d) 2^{-2}

7- What is the value of $3^{-4} \times 3^4$?

- a)0 b)1 c) 3^{-8} d) 3^{-16}

8- What is the value of $3^{-3} + 9^{-1}$?

- a) 3^{-5} b) 12^{-4} c) $\frac{1}{18}$ d) $\frac{4}{27}$

9- What is the value of $2^{-4} - 4^{-2}$?

- a) -2^{-6} b) $(-2)^{-6}$ c) $(-2)^{-2}$ d)0

10- If $n = 3$, what is the value of 2^n ?

- a)0.125 b) 8 c)-6 d)0.1667



11- If $x = \frac{1}{2}$, what is the value of x^{-4} ?

a)-2

b) -16

c)16

d) $\frac{1}{16}$

12- What is the value of 4^{-3} ?

a)-64

b)-12

c)1

d) $\frac{1}{64}$

13- x^{-2} is the same as:

a) $-x^{-2}$

b)-2x

c) $\frac{1}{x^2}$

d) $-\frac{1}{x^2}$

14- If a is a whole number, then $a^{-n} \times a^n = \dots\dots\dots$

a) a

b) 0

c) 1

d) a^{2n}

15- What is the square root of 196?

a) 14

b) 24

c) 19.6

d) 38,416

16- What is the cube root of -64?

a) 4

b) -4

c) 8

d) -8



17- The mass of the Moon is

73,000,000,000,000,000,000,000 kg



What is this written in Scientific notation (Standard form)? a) 7.3×10^{21} kg b) 7.3×10^{22} kg

c) 73×10^{21} kg d) 0.73×10^{23} kg

18- Write 3.56×10^{11} as an ordinary number.

a) 3,560,000,000,000 b) 356,000,000,000

c) 35,600,000,000 d) 3,560,000,000

19- What is the value of:

$$\frac{\sqrt[3]{27} + \sqrt[3]{125}}{\sqrt[3]{64}}$$

a) 1 b) 2 c) 3 d) 4



$$20 - \sqrt[3]{27} \times \sqrt[3]{-27} = \dots\dots\dots$$

a)1

b)9

c)-9

d)0

Q2) Complete the following:

1- The cube root of 216 is

2- $800 = \dots\dots \times \dots\dots$

3- $(-3)^3 = \dots\dots\dots$

4- $(-3)^4 = \dots\dots\dots$

5- $-3^4 = \dots\dots\dots$

6- The length of a bacterium is about 4×10^{-5} inch.

What is the length of a bacterium written as an ordinary number? is



7- Forth of 4^4 is

8- Half of 2^5 is

9- $7^4 \times \dots = 7^{10}$

10- $5^4 \div \dots = 5^3$

11- Simplify the following:

$$2x^4y^4 \cdot 2x^2y^4z^0 = \dots$$

12- $\frac{2^8z^{10}}{2^6z^3} = \dots$

13- The length of a rectangle is $4a^4b^5$ and the width is $3a^2b^3$, what is the expression that represents the area of the rectangle?

Area =



14- Multiply: $(4 \times 10^5)(5 \times 10^{-3}) = \dots\dots\dots$

15- $\frac{6 \times 10^6}{2 \times 10^3} = \dots\dots\dots$

16- The volume of a cube is 512 cubic centimeters. What is the side length of the cube? $\dots\dots\dots$

17- $-2k^2 = -162$, then $k = \dots\dots\dots$

18- Multiplicative inverse of 10^{-5} is $\dots\dots\dots$

19- $4.31 \times 10^2 = \dots$ (*in standard form*)

20- Additive inverse of $(-2)^3$ is $\dots\dots\dots$

21- Write the answer in scientific notation.

$4.1 \times 10^5 + 5.5 \times 10^6 = \dots\dots\dots$



22- $7v^2 + 1 = 29$, then $v = \dots\dots\dots$

23- Find the difference

$(3.8 \times 10^4) - (2 \times 10^3) = \dots\dots\dots$

24- $2c^3 - 10 = 240$, then $c = \dots\dots\dots$

Q3) True or false:

a) $6 \times 6 \times 6 \times 6 = 4^6$ ()

b) $225 = 15^2$ ()

c) $3^5 = 3 \times 3 \times 3 \times 3 \times 3$ ()

d) $4^3 = 8^2$ ()

e) $2^3 = 42$ ()

f) $1,000 = 10^2$ ()



Q4) story problems:

1- A gift box in the shape of a cube has a volume of 216 cm^3 . What is the area of the base of the box?

.....

.....

.....

.....

2- Find the area of a triangle with a base of $3x^2y^2$ and a height of $4x^4y^3$.

.....

.....

.....

.....



3- The volume of a cube is 729 cm^3 , What is the lateral and total surface area?

.....

.....

.....

.....

4- The area of a square garage is 121 square feet. Will it fit a car that measures 13 feet long? Explain.

.....

.....



Q1) Choose the correct answer:

1- Which of the following is equivalent to 81?

- a) 3^3 b) 8^1 c) 9^2 d) 2^4

2-How would you write $6 \times 6 \times 6 \times 6 \times 6$ in exponential form?

- a) 6^5 b) 5^6 c) 6 d) 5

3- Which of the following is NOT equal to 1?

- a) 1^1 b) 10^1 c) 6^0 d) 1^9

4- What is equivalent to 10^3 ?

- a) 10 b) 100 c) 1000 d) 10,000



5- What is the value of 4^{-2} ?

- a) -16 b) -8 c) 0.25 d) 0.0625

6- Which one of the following has the least value?

- a) 2^{-3} b) 3^{-2} c) 3^{-3} d) 2^{-2}

7- What is the value of $3^{-4} \times 3^4$?

- a) 0 b) 1 c) 3^{-8} d) 3^{-16}

8- What is the value of $3^{-3} + 9^{-1}$?

- a) 3^{-5} b) 12^{-4} c) $\frac{1}{18}$ d) $\frac{4}{27}$

9- What is the value of $2^{-4} - 4^{-2}$?

- a) -2^{-6} b) $(-2)^{-6}$ c) $(-2)^{-2}$ d) 0

10- If $n = 3$, what is the value of 2^n ?

- a) 0.125 b) 8 c) -6 d) 0.1667



11- If $x = \frac{1}{2}$, what is the value of x^{-4} ?

a)-2

b) -16

c) **16**

d) $\frac{1}{16}$

12- What is the value of 4^{-3} ?

a)-64

b)-12

c)1

d) $\frac{1}{64}$

13- x^{-2} is the same as:

a) $-x^{-2}$

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c) $\frac{1}{x^2}$

d) $-\frac{1}{x^2}$

14- If a is a whole number, then $a^{-n} \times a^n = \dots\dots\dots$

a) a

b) 0

c) **1**

d) a^{2n}

15- What is the square root of 196?

a) **14**

b) 24

c) 19.6

d) 38,416

16- What is the cube root of -64?

a) 4

b) **-4**

c) 8

d) -8



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c) 35,600,000,000

d) 3,560,000,000

19- What is the value of:

$$\frac{\sqrt[3]{27} + \sqrt[3]{125}}{\sqrt[3]{64}}$$

a) 1

b) 2

c) 3

d) 4



$$20 - \sqrt[3]{27} \times \sqrt[3]{-27} = \dots\dots\dots$$

a)1

b)9

c)-9

d)0

Q2) Complete the following:

1- The cube root of 216 is 6

2- $800 = 2^5 \times 5^2$

3- $(-3)^3 = -27$

4- $(-3)^4 = 81$

5- $-3^4 = -81$

6- The length of a bacterium is about 4×10^{-5} inch.

What is the length of a bacterium written as an ordinary number? is 0.00004



7- Forth of 4^4 is 4^3

8- Half of 2^5 is 2^4

9- $7^4 \times 7^6 = 7^{10}$

10- $5^4 \div 5 = 5^3$

11- Simplify the following:

$$2x^4y^4 \cdot 2x^2y^4z^0 = 4x^6y^8$$

12- $\frac{2^8z^{10}}{2^6z^3} = 2^2z^7$

13- The length of a rectangle is $4a^4b^5$ and the width is $3a^2b^3$, what is the expression that represents the area of the rectangle?

$$\text{Area} = 12a^6b^8$$



14- Multiply: $(4 \times 10^5)(5 \times 10^{-3}) = 2 \times 10^3$

15- $\frac{6 \times 10^6}{2 \times 10^3} = 3 \times 10^3$

16- The volume of a cube is 512 cubic centimeters. What is the side length of the cube? **8 cm**

17- $-2k^2 = -162$, then **$k = \pm 9$**

18- Multiplicative inverse of 10^{-5} is **10^5**

19- $4.31 \times 10^2 = 431$ (in standard form)

20- Additive inverse of $(-2)^3$ is **8**

21- Write the answer in scientific notation.

$$4.1 \times 10^5 + 5.5 \times 10^6 = 5.91 \times 10^6$$



22- $7v^2 + 1 = 29$, then $v = \pm 2$

23- Find the difference

$$(3.8 \times 10^4) - (2 \times 10^3) = 3.6 \times 10^4$$

24- $2c^3 - 10 = 240$, then $c = 5$

Q3) True or false:

a) $6 \times 6 \times 6 \times 6 = 4^6$ (**X**)

b) $225 = 15^2$ (**✓**)

c) $3^5 = 3 \times 3 \times 3 \times 3 \times 3$ (**✓**)

d) $4^3 = 8^2$ (**✓**)

e) $2^3 = 42$ (**X**)

f) $1,000 = 10^2$ (**X**)



Q4) story problems:

- 1- A gift box in the shape of a cube has a volume of 216 cm^3 . What is the area of the base of the box?

The side length = 6cm

The area of the base of the box = 36 cm^2

- 2- Find the area of a triangle with a base of $3x^2y^2$ and a height of $4x^4y^3$.

The area of triangle = $\frac{1}{2} \times \text{base} \times \text{height}$

$$= \frac{1}{2} \times 3x^2y^2 \times 4x^4y^3$$

$$= 6x^6y^5$$



3- The volume of a cube is 729 cm^3 , What is the lateral and total surface area?

The length side is 9 cm.

Lateral surface area = $9^2 \times 4 = 324 \text{ cm}^2$

Total surface area = $9^2 \times 6 = 486 \text{ cm}^2$

4- The area of a square garage is 121 square feet.
Will it fit a car that measures 13 feet long?
Explain.

No. Since the side length of each side of the garage is 11 feet, which is less than the length of the car, the car will not fit in the garage.



حمل الآن

مجاناً وحصرياً

المراجعة رقم (7)

اختبار شهر فبراير



REVISION I

► Choose the correct answer from the given ones :

1 If the world's population is approximately 8 milliard , what is the scientific notation for the world population?

- (a) 8×10^{10} (b) 8×10^9 (c) 80×10^8 (d) 8×10^8

2 Which of the following equals $2x^{-1}$?

- (a) $2x$ (b) $\frac{1}{2}x$ (c) $\frac{1}{2x}$ (d) $\frac{2}{x}$

3 Which of the following equals $\sqrt[3]{(-8)^2}$?

- (a) -4 (b) -2 (c) 2 (d) 4

4 Which of the following equals $\sqrt{9x^2}$?

- (a) $3x$ (b) $9x$ (c) $3x^2$ (d) $3|x|$

► Complete each of the following with the correct answer :

5 If $0.000046 = 4.6 \times 10^n$, then $n = \dots\dots\dots$

6 $\sqrt{16} - \sqrt[3]{-27} = \dots\dots\dots$

7 If $x^3 + 4 = 12$, then $x = \dots\dots\dots$

8 If $3^4 + 3^4 + 3^4 = 3^n$, then $n = \dots\dots\dots$

► Answer the following questions :

9 The area of a square equals the area of a triangle with a base length of 9 cm and a height corresponding to this base of 8 cm. Find the length of the square's side.

10 Simplify to its simplest form : $\frac{a^7 \times a^8 \times a^2}{a^3 \times a^9 \times a^5}$ where $a \neq 0$

11 Simplify to its simplest form : $\sqrt{\frac{81}{49}} + \left(\frac{3}{4}\right)^0 + \sqrt[3]{\frac{125}{343}}$

12 Write the result of the following in scientific notation : $(5.2 \times 10^9) - (8.5 \times 10^8)$

REVISION 2

First Group :

► Choose the correct answer from the given ones :

1 Which of the following equals $(-3)^2$?

(a) -9

(b) 9

(c) 6

(d) -6

2 Which of the following equals -0.00025 ?

(a) -2.5×10^4

(b) 2.5×10^{-4}

(c) -2.5×10^{-4}

(d) 2.5×10^{-5}

3 The multiplicative inverse of the number $\sqrt[3]{\frac{8}{27}}$ is

(a) $\frac{4}{9}$

(b) $-\frac{2}{3}$

(c) $-\frac{3}{2}$

(d) $\frac{3}{2}$

4 Half of the number 2^x is

(a) 1^x

(b) $\left(\frac{1}{2}\right)^x$

(c) 2^{x+1}

(d) 2^{x-1}

5 Which of the following equals $y \times y^3 \times y^{-3} \times x^{-2} \times x^{-2} \times x^{-3}$?

(a) $y^7 x^{-7}$

(b) $y \times x^{-7}$

(c) $y^2 \times x^{-5}$

(d) $y \times x^{-5}$

6 Which of the following is the greatest ?

(a) 7.2×10^{-3}

(b) 7.2×10^{-5}

(c) -6.4×10^{-2}

(d) 4.6×10^{-7}

7 $\sqrt[3]{x^{12}} = \sqrt{\dots\dots\dots}$

(a) x^4

(b) x^6

(c) x^8

(d) x^{12}

8 If $x^3 = -1$, then what is the value of x ?

(a) -1

(b) 0

(c) 1

(d) -3

9 If $745 \times 10^{-9} = k \times 10^{-7}$, then what is the value of k ?

(a) 74.5

(b) 7.45

(c) 0.745

(d) 0.0745

Second Group :

► Answer the following questions :

1 Find the solution set for each of the following equations in \mathbb{Z} :

① $2x^2 + 1 = 51$

② $3x^3 - 7 = 2x^3 + 20$

2 Simplify to its simplest form : $\frac{y^{-7} \times y^3 \times y^2}{y^{-4} \times y^{-2}}$

3 Write the result of each of the following in scientific notation :

① $(5.2 \times 10^8) + (6.3 \times 10^7)$

② $(6.4 \times 10^{-3}) \times (2.91 \times 10^{-5})$

4 A cube has a volume of 125 cubic centimeters. Find its lateral and total surface area.

5 If $x = -2$ and $y = 3$, find the numerical value of each of the following :

① x^y

② $(-y)^3$

③ $(x + y)^2$

6 Arrange each of the following in an ascending order :

25×10^{12} , 7.2×10^{12} , 46×10^{12} , 75.2×10^{11}

7 Simplify to its simplest form : $\sqrt{\frac{25}{36}} + \sqrt[3]{\frac{-8}{27}} + 2^{-2}$

REVISION 3

► Choose the correct answer from the given ones :

1 If $-2x^3 \times x = ax^n$, what is the value of $a + n$?

(a) -3

(b) -2

(c) 2

(d) 3

2 If $x \in \mathbb{Z}$, which of the following is a solution to the inequality $1 - 2x < 3$?

(a) 0

(b) -1

(c) -2

(d) -4

3 If $(x - 2)(x + 2) - 5 = 0$, what is the value of x where $x < 0$?

(a) -9

(b) -2

(c) -1

(d) -3

4 A rectangle has an area of $(x^2 + 6x + 8)$ square units and a length of $(x + 4)$ length units, what is the width of the rectangle?

(a) x

(b) $x + 2$

(c) $x - 2$

(d) $x - 4$

► Complete the following :

5 $\frac{a^2 - a}{a - 1} = \dots\dots\dots$

6 The coefficient of a in the product $(2a - 3b) \times (a - b)$ equals $\dots\dots\dots$

7 The solution set of the inequality $2x - 1 > x + 2$ in \mathbb{Z} equals $\dots\dots\dots$

8 If $(3x - 4)^2 = ax^2 + bx + c$, then $b = \dots\dots\dots$

► Answer the following questions :

9 Find in simplest form the product $(x - 3)(2x^2 - x + 4)$ and then find the numerical value of the result when $x = -1$

10 Find the solution set of the inequality $2(3x - 1) \geq 4x - 3$ in \mathbb{Q}

11 Find the quotient of $(-2x^2y + 4xy^2 - 6xy)$ divided by $(-2xy)$

12 If the length of each side of a square is increased by 3 cm, its area increases by 51 square centimeters, what was the length of a side of the square before the increase?

REVISION 4

First Group :

► Choose the correct answer from the given ones :

1 $\div (-3x^2y) = 5xy^2$

(a) $15x^2y^2$

(b) $-15x^3y^3$

(c) $\frac{5}{3}xy$

(d) $-\frac{3}{5}xy$

2 If $(x+3)(x-2) = x^2 + bx + c$, then what is the value of c ?

(a) -1

(b) 1

(c) 6

(d) -6

3 If $x-3 > 5$, then which of the following could be the value of x ?

(a) 6

(b) 7

(c) 8

(d) 9

4 If a cube with an edge length of $3x$, then what is its volume?

(a) $6x^2$

(b) $9x^2$

(c) $27x^3$

(d) $9x$

5 $(12a+4) \div 4 = \dots\dots\dots$

(a) $3a$

(b) $3a+4$

(c) $3a+1$

(d) $3a+8$

6 $18ab^2 \div \dots\dots\dots = -3a$

(a) $-54a^2b^3$

(b) $54a^2b^2$

(c) $-6ab$

(d) $-6b^2$

7 Which of the following inequalities has one of its solutions is $x = -3$ in \mathbb{Q} ?

(a) $x-1 \geq -3$

(b) $2x < -8$

(c) $x+1 > -6$

(d) $-2x < -6$

8 If $x+y = 7$, and $x-y = 3$, then what is the value of $x^2 - y^2$?

(a) 21

(b) 10

(c) 4

(d) 16

9 $(-3a^2b)(2ab)(-6a) = \dots\dots\dots$

(a) $-36a^4b^2$

(b) $36a^4b^2$

(c) $-7a^3b^2$

(d) $36abc$

Second Group :

► Answer the following questions :

1 Find the solution set for each of the following inequalities :

① $1-3x < 7$ in \mathbb{Z}

② $2(x-5)-3 \geq 15$ in \mathbb{Q}

2 Simplify to its simplest form : $(x - y)^2 - x^2$, then find the numerical value of the result when $x = -1$ and $y = 2$

3 If the area of a rectangle equals $(6x^3 + 18x^4 - 12x^2)$ square units and one of its dimensions is $(6x^2)$ length units , then find the other dimension in terms of x

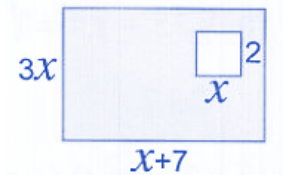
4 If $(x + 3)$ is one of the factors of the expression $(x^2 - 2x - 15)$, find the other factor.

5 Find in the simplest form the result of each of the following :

① $(x - 3)(x^2 - 2x + 6)$

② $(7a - 2b)(3a + 5b)$

6 Find in the simplest form the algebraic expression that represents the area of the shaded part.



7 A cuboid with a volume of $(4x^2 + 12xy + 9y^2)$ cubic units and its base area of $(2x + 3y)$ square units. Find its height in terms of x and y

REVISION 5

First Group :

► Choose the correct answer from the given ones :

- 1 Which of the following expresses $\frac{x^3}{x^{-2}}$ in its simplest form ?
 (a) x^{-6} (b) x^6 (c) x (d) x^5
- 2 If $-x < 3$, then which of the following is true ?
 (a) $x \leq 3$ (b) $x > -3$ (c) $x < 3$ (d) $x < -3$
- 3 $\sqrt{25} + \sqrt{4} = \sqrt{\dots\dots\dots}$
 (a) 7 (b) 29 (c) 49 (d) 841
- 4 $(5r^3s^2t)(-rt^4) = \dots\dots\dots$
 (a) $-5r^4st^5$ (b) $5r^2st^3$ (c) $-5r^3s^2t^4$ (d) $-5r^4s^2t^5$
- 5 If the number $x \times 10^{-7}$ is written in scientific notation, then which of the following could be the value of x ?
 (a) 13.7 (b) -5.8 (c) -0.6 (d) 10.2
- 6 If $(x+y)^2 = 20$, and $x^2 + y^2 = 6$, then what is the value of xy ?
 (a) 7 (b) 14 (c) 17 (d) 40
- 7 $\frac{24x^2y^3z}{\dots\dots\dots} = -2xyz$
 (a) $-48x^3y^4z^2$ (b) $-12xy^2z$ (c) $-12xy^2$ (d) $12xyz$
- 8 If $(x-7)(x+7) = x^2 + a$, then what is the value of a ?
 (a) 49 (b) -49 (c) 14 (d) -14
- 9 $3^x + 3^x + 3^x = \dots\dots\dots$
 (a) 3^3x (b) $9x$ (c) 3^{3x+1} (d) 3^{x+1}

Second Group :

► Answer the following questions :

- 1 Find the quotient of : $\frac{3ab^2 + 9a^2b - 6a^2b^2}{3ab}$
- 2 Find in the simplest form the result of each of the following :
 ① $(m-5n)(m+3n)$ ② $(2x-7)^2$
 ③ $(x^2-1)(x^2+1)$
- 3 Find the value of x if : $3x^3 + 15 = 96$
- 4 Find the solution set for each of the following inequalities :
 ① $\frac{1}{3}x - 1 \geq 2$ in \mathbb{Z}
 ② $2(2x+3) \leq 5x+2$ in \mathbb{Q}
- 5 Simplify to the simplest form : $4(3x^2 + 5x) - x(x^2 - 7x + 8)$
- 6 If the expression $(x^2 + x - m)$ is divisible by $(x+4)$, then find the value of m .
- 7 Find the result of each of the following in scientific notation :
 ① $(12.8 \times 10^7) - (6.2 \times 10^6)$
 ② $(4.8 \times 10^{-7}) \div (0.8 \times 10^4)$

ANSWERS

1

- 1 b 2 d 3 d 4 d
5 -5 6 7 7 2 8 5

9 The area of the triangle = $\frac{1}{2} \times 9 \times 8$
= 36 square centimeters.

∴ The area of the square = 36 square centimeters.

∴ The length of the side of the square = $\sqrt{36} = 6$ cm

10 $\frac{a^7 \times a^8 \times a^2}{a^3 \times a^9 \times a^5} = a^{7+8+2-3-9-5} = a^0 = 1$

11 $\sqrt{\frac{81}{49}} + \left(\frac{3}{4}\right)^0 + \sqrt[3]{\frac{125}{343}} = \frac{9}{7} + 1 + \frac{5}{7}$
= $1 + \frac{14}{7} = 3$

12 $(5.2 \times 10^9) - (8.5 \times 10^8)$
= $(52 \times 10^8) - (8.5 \times 10^8)$
= $(52 - 8.5) \times 10^8 = 43.5 \times 10^8 = 4.35 \times 10^9$

2

First Group :

- 1 b 2 c 3 d 4 d
5 b 6 a 7 c 8 a
9 b

Second Group :

1 ① ∴ $2x^2 + 1 = 51$ ∴ $2x^2 = 51 - 1 = 50$
∴ $x^2 = \frac{50}{2} = 25$ ∴ $x = \pm\sqrt{25} = \pm 5$
∴ The solution set = $\{-5, 5\}$

2 ② ∴ $3x^3 - 7 = 2x^3 + 20$
∴ $3x^3 - 2x^3 = 20 + 7$
∴ $x^3 = 27$ ∴ $x = \sqrt[3]{27} = 3$
∴ The solution set = $\{3\}$

3 ② $\frac{y^{-7} \times y^3 \times y^2}{y^{-4} \times y^{-2}} = y^{-7+3+2+4+2} = y^4$

3 ① $(5.2 \times 10^8) + (6.3 \times 10^7)$
= $(52 \times 10^7) + (6.3 \times 10^7)$
= $(52 + 6.3) \times 10^7$
= $58.3 \times 10^7 = 5.83 \times 10^8$

2 $(6.4 \times 10^{-3}) \times (2.91 \times 10^{-5})$
= $(6.4 \times 2.91) \times (10^{-3} \times 10^{-5})$
= $18.624 \times 10^{-8} = 1.8624 \times 10^{-7}$

4 ∴ $s^3 = 125$ ∴ $s = \sqrt[3]{125} = 5$

Thus, the length of the cube edge = 5 cm

The lateral surface area

= $4s^2 = 4(5)^2 = 100$ square centimeters.

The total surface area

= $6s^2 = 6(5)^2 = 150$ square centimeters.

5 ① $x^y = (-2)^3 = -2^3 = -8$

② $(-y)^3 = (-3)^3 = -3^3 = -27$

③ $(x+y)^2 = (-2+3)^2 = (1)^2 = 1$

6 $7.2 \times 10^{12} < 75.2 \times 10^{11} < 25 \times 10^{12} < 46 \times 10^{12}$

7 $\sqrt{\frac{25}{36}} + \sqrt[3]{\frac{-8}{27}} + 2^{-2} = \frac{5}{6} + \left(\frac{-2}{3}\right) + \frac{1}{2^2}$
= $\frac{5}{6} - \frac{2}{3} + \frac{1}{4} = \frac{10}{12} - \frac{8}{12} + \frac{3}{12} = \frac{5}{12}$

3

- 1 c 2 a 3 d 4 b
5 a 6 -5 7 $\{4, 5, 6, \dots\}$
8 -24

9 $(x-3)(2x^2-x+4)$
= $2x^3 - x^2 + 4x - 6x^2 + 3x - 12$
= $2x^3 - 7x^2 + 7x - 12$

The numerical value of the result when $x = -1$

$2(-1)^3 - 7(-1)^2 + 7(-1) - 12$
= $-2 - 7 - 7 - 12 = -28$

10 ∴ $2(3x-1) \geq 4x-3$
∴ $6x-2 \geq 4x-3$ ∴ $6x-4x \geq -3+2$
∴ $2x \geq -1$ ∴ $x \geq \frac{-1}{2}$
∴ The solution set = $\{x : x \in \mathbb{Q}, x \geq \frac{-1}{2}\}$

11 $\frac{-2x^2y + 4xy^2 - 6xy}{-2xy} = x - 2y + 3$

12 Assuming that the length of the side of the square before the increase = x cm.

- \therefore The area of the square before the increase $= x^2 \text{ cm}^2$
 \therefore The length of the side of the square after the increase $= (x + 3) \text{ cm}$.
 \therefore The area of the square after the increase $= (x + 3)^2 \text{ cm}^2$
 $\therefore (x + 3)^2 - x^2 = 51$
 $\therefore x^2 + 6x + 9 - x^2 = 51$
 $\therefore 6x = 51 - 9 = 42 \quad \therefore x = \frac{42}{6} = 7$
 \therefore The length of the side of the square before the increase $= 7 \text{ cm}$.

4

First Group :

- 1 b 2 d 3 d 4 c
 5 c 6 d 7 c 8 a
 9 b

Second Group :

- 1 ① $\therefore 1 - 3x < 7$
 $\therefore -3x < 7 - 1$
 $\therefore -3x < 6 \quad \therefore x > \frac{6}{-3}$
 $\therefore x > -2$
 \therefore The solution set $= \{-1, 0, 1, \dots\}$
 2 $\therefore 2(x - 5) - 3 \geq 15$
 $\therefore 2x - 10 - 3 \geq 15$
 $\therefore 2x - 13 \geq 15$
 $\therefore 2x \geq 15 + 13$
 $\therefore 2x \geq 28 \quad \therefore x \geq \frac{28}{2}$
 $\therefore x \geq 14$
 \therefore The solution set $= \{x : x \in \mathbb{Q}, x \geq 14\}$
 3 $(x - y)^2 - x^2 = x^2 - 2xy + y^2 - x^2$
 $= y^2 - 2xy$
 \therefore The numerical value when $y = 2$ and $x = -1$
 $(2)^2 - 2(-1)(2) = 4 + 4 = 8$
 4 The other dimension $= \frac{18x^4 + 6x^3 - 12x^2}{6x^2}$
 $= (3x^2 + x - 2) \text{ length units}$

4

$$\begin{array}{r}
 x - 5 \\
 x + 3 \overline{) x^2 - 2x - 15} \\
 \underline{-(x^2 + 3x)} \\
 -5x - 15 \\
 \underline{-(5x + 15)} \\
 0
 \end{array}$$

\therefore The other factor $= (x - 5)$

- 5 ① $(x - 3)(x^2 - 2x + 6)$
 $= x^3 - 2x^2 + 6x - 3x^2 + 6x - 18$
 $= x^3 - 5x^2 + 12x - 18$
 2 $(7a - 2b)(3a + 5b) = 21a^2 + 29ab - 10b^2$

- 6 The area of the shaded part :
 $3x(x + 7) - 2x = 3x^2 + 21x - 2x$
 $= 3x^2 + 19x$

7

$$\begin{array}{r}
 2x + 3y \\
 2x + 3y \overline{) 4x^2 + 12xy + 9y^2} \\
 \underline{-(4x^2 + 6xy)} \\
 6xy + 9y^2 \\
 \underline{-(6xy + 9y^2)} \\
 0
 \end{array}$$

\therefore The height of the cuboid is $(2x + 3y)$ length units

5

First Group :

- 1 d 2 b 3 c 4 d
 5 b 6 a 7 c 8 b
 9 d

Second Group :

- 1 $\frac{3ab^2 + 9a^2b - 6a^2b^2}{3ab} = b + 3a - 2ab$
 2 ① $(m - 5n)(m + 3n) = m^2 - 2mn - 15n^2$
 ② $(2x - 7)^2 = 4x^2 - 28x + 49$
 ③ $(x^2 - 1)(x^2 + 1) = x^4 - 1$
 3 $\therefore 3x^3 + 15 = 96 \quad \therefore 3x^3 = 96 - 15$
 $\therefore 3x^3 = 81 \quad \therefore x^3 = \frac{81}{3} = 27$
 $\therefore x = \sqrt[3]{27}$
 4 ① $\therefore \frac{1}{3}x - 1 \geq 2 \quad \therefore \frac{1}{3}x \geq 2 + 1$
 $\therefore \frac{1}{3}x \geq 3 \quad \therefore x \geq 3 \times \frac{1}{3}$
 $\therefore x \geq 3 \times 3 \quad \therefore x \geq 9$
 \therefore The solution set $= \{9, 10, 11, \dots\}$
 ② $\therefore 2(2x + 3) \leq 5x + 2$
 $\therefore 4x + 6 \leq 5x + 2$
 $\therefore 4x - 5x \leq 2 - 6$
 $\therefore -x \leq -4 \quad \therefore x \geq 4$
 \therefore The solution set $= \{x : x \in \mathbb{Q}, x \geq 4\}$
 5 $4(3x^2 + 5x) - x(x^2 - 7x + 8)$
 $= 12x^2 + 20x - x^3 + 7x^2 - 8x$
 $= -x^3 + 19x^2 + 12x$
 6
$$\begin{array}{r}
 x - 3 \\
 x + 4 \overline{) x^2 + x - m} \\
 \underline{-(x^2 + 4x)} \\
 -3x - m \\
 \underline{-(3x + 12)} \\
 -m + 12
 \end{array}$$

 $\therefore -m + 12 = 0 \quad \therefore m = 12$
 7 ① $(12.8 \times 10^7) - (6.2 \times 10^6)$
 $= (128 \times 10^6) - (6.2 \times 10^6)$
 $= (128 - 6.2) \times 10^6 = 121.8 \times 10^6$
 $= 1.218 \times 10^8$
 ② $(4.8 \times 10^{-7}) \div (0.8 \times 10^4)$
 $= (4.8 \div 0.8) \times (10^{-7} \div 10^4)$
 $= 6 \times 10^{-11}$

كيفية طباعة صفحات معينة من ملف معين

مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

